

**ADDENDUM #2  
TO SPEC. 05-258**

**WATER DISTRIBUTION MAIN  
PROJECT 803202, 803203 & 803204,  
BEING A 16" WATER LINE ALONG NW 13<sup>TH</sup> FROM FLETCHER AVE.& HWY 34,  
A 16" & 24" WATER LINE ALONG HWY 34 FROM NW 12<sup>TH</sup> & NO. 1<sup>ST</sup> ST. and  
A 24" & 30" WATER LINE ALONG FLETCHER AVE. FROM NO. 1<sup>ST</sup> to NO. 14<sup>TH</sup> ST.**

Addendum #2 to Spec. 05-258 for above project, bids to be opened on Wednesday, November 16, 2005 at 12:00 noon.

Go to the City's website to download minutes of pre-bid meeting, changes and revised documents. Contact the purchasing department at 402/441-7410 if assistance is needed.

Dated this 8<sup>th</sup> day of November, 2005

All other terms and conditions to remain unchanged.

Purchasing Department

Mary L. Long  
Assistant Purchasing Agent

**City of Lincoln, Nebraska, 2005  
Water Distribution Mains  
Project Nos. 803202, 803203, 803204  
Specification No. 05-258**

**ADDENDUM NO. 2**

*The bid date has been changed to Wednesday, November 16, 2005.  
Additional questions must be received by  
Thursday, November 10, 2005, 12:00 Noon.*

**A. SCOPE.**

This Addendum No. 2 consists of pages AD2-1 through AD2-8 and attachments. The following modifications shall be made to the Contract Documents for this project.

**B. PROPOSAL & CONTRACT DOCUMENTS**

**1.0 Proposal**

**1.1 REMOVE** the existing Proposal section and **REPLACE** with the attached Proposal section.

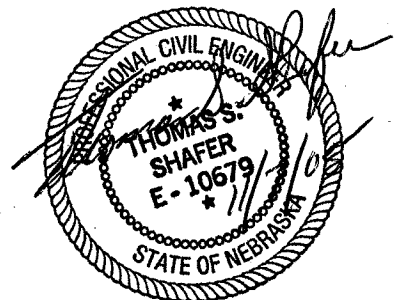
**1.2 Changes include:**

**REMOVE** "November 9, 2005" and **REPLACE** with "November 16, 2005"

Indicate the pipe material type used for bidding purposes (DIP, PCCP, Steel)

**2.0 Contract Agreement**

**2.1 REMOVE** Contract Agreement – Page 5 and **REPLACE** with the attached Contract Agreement – Page 5.



**C. SPECIAL PROVISIONS**

**1.0** INSERT the attached Special Provision for "III. AWARD AND EXECUTION OF CONTRACT, B. Construction Performance and Construction Payment Bonds and Execution of Contract" before the Special Provision for Liquidated Damages.

**2.0** INSERT the attached Special Provision for "VII. LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC" before the Special Provision for Liquidated Damages.

**3.0** INSERT the attached Special Provision for "IX. GUARANTEE AND PAYMENT, D. PROGRESS PAYMENT, Unit Price Definitions" after the Special Provision for Liquidated Damages.

**4.0 TABLE OF CONTENTS**

**4.1** DELETE "DIVISION 0 – CONDITIONS OF THE CONTRACT"

**4.2** DELETE "00805 Supplementary Conditions"

**5.0 DIVISION 0**

**5.1** DELETE Division 0 Section Page

**5.2** DELETE Section 00805 in its' entirety.

**5.3** DELETE all references to "Division 0 – Bidding Requirements, Contract Forms, and Conditions of the Contract" in Divisions 1-15 of the Contract Documents.

**5.4** Contract requirements can be found in the Contract Documents, Addendums and the City of Lincoln General Provisions.

**6.0 DIVISION 1**

**6.1** DELETE Section 01015 in its' entirety.

**6.2** Page 01060-2. Line 33.

DELETE "March 1, 2006" and REPLACE with "May 1, 2006".

**6.3** Page 01060-2. Line 36.

DELETE "April 1, 2006" and REPLACE with "May 1, 2006".

6.4 Page 01060-2. Line 37.

DELETE "May 15, 2005" and REPLACE with "August 15, 2006".

6.5 Page 01060-2. Line 39.

DELETE "General Conditions" and REPLACE with "General Provisions".

6.6 Page 01060-4. Line 19.

DELETE "The City shall provide all valves and fittings 16 IN DIA and smaller" and REPLACE with "Contractor shall purchase all valves 16 IN DIA and smaller from the City in accordance with City Specifications Chapter 23.02 – Materials and Services Purchased from the City".

6.7 Page 01060-11. Lines 11-12.

DELETE "in early to mid-January, 2006" and REPLACE with "in late January to early February, 2006".

6.8 Page 01340-1. Line 17.

DELETE "General Conditions" and REPLACE with "General Provisions".

6.9 Page 01340-2. Line 3.

DELETE "General Conditions Paragraph XXII.B" and REPLACE with "General Provisions VI.G".

6.10 Page 01340-2. Lines 27-28.

DELETE "as stipulated under City of Lincoln General Conditions Paragraph XXIV."

6.11 Page 01340-5. End of Section.

INSERT the attached Shop Drawing Transmittal Form at the end of this section.

6.12 Page 01640-11. Lines 13-14.

DELETE "This section does not address substitutions for major equipment. See "Supplemental Instructions to Bidders." "

## 7.0 DIVISION 2

### 7.1 None

## 8.0 DIVISION 13

### 8.1 Page 13110-5. Line 43.

INSERT the Following:

#### 2.13 Wax tape coating:

A. All buried valves and isolating flanges shall be provided with an external coating consisting of a primer, wax tape, and outer covering as specified below:

##### 1. Primer:

- a. The exposed surface shall be prime coated with a blend of petrolatum, plasticizer, and corrosion inhibitor having a paste-like consistency.
- b. The material shall have the following properties:
  - 1) Pour point: 100 DegF.
  - 2) Flash point: 350 DegF minimum.
  - 3) Approximate cover: 1 GAL/100 SQ FT.
  - 4) Color: Brown.
- c. The primer shall be Trenton Wax Primer or approved equal.

##### 2. Wax tape:

- a. Valve/flange covering material shall be a plastic-fiber felt tape, saturated with a blend of petrolatums, plasticizers, and corrosion inhibitors that is easily formable over irregular surfaces.
- b. The tape shall have the following properties:
  - 1) Tape width: 6 IN.
  - 2) Saturant pour point: 115-120 DegF.
  - 3) Thickness: 50-70 mils.
  - 4) Dielectric strength: 100 V/mil.
  - 5) Color: Brown.
- c. The wax tape shall be Trenton #1 Wax Tape or approved equal.

##### 3. Outer covering:

- a. The primed and wax tape wrapped flange/valve shall be wrapped with a plastic tape covering consisting of three (3) layers of 50 gage, clear, polyvinylidene chloride, high cling membranes would together as a single sheet.
- b. The material shall have the following properties:
  - 1) Width: 6 IN.
  - 2) Thickness: 1.5 mils.
  - 3) Dielectric strength: 2000 V/mil.
  - 4) (Water absorption: Negligible.
  - 5) Color: Clear.
- c. The outer covering shall be Trenton Poly-Ply or approved equal.

8.2 Page 13110-7. Line 31.

INSERT the Following as 3.7.C:

C. Wax Tape:

1. Spread primer on clean surface using gloves.
2. Moisture will be forced from surface as primer is applied.
3. Wrap flange with wax tape molding the tape around the bolts and nuts of the flange.
4. Force air from beneath tape.
5. After tape has been thoroughly applied, wrap the exterior with the outer covering.
6. Refer to manufacturers instructions for more detailed installation procedures.

**9.0 DIVISION 15**

9.1 Page 15060-1. Line 34.

INSERT into 1.3.B.1 "d. Submit certified copies of mill test reports for bolts and nuts, including coatings if specified. Provide recertification by an independent domestic testing laboratory acceptable to the owner, for materials originating outside of the United States."

9.2 Page 15060-2. Line 14.

DELETE "24 IN and larger". This change allows all pipe diameters to be PCCP, Steel or DIP.

INSERT "or Steel" after "prestressed concrete cylinder pipe".

9.3 Page 15060-2. Line 16.

DELETE "a. All other pipe shall be ductile iron pipe unless otherwise indicated."

9.4 Page 15060-2. Line 42.

INSERT the following after Line 42:

E. Joint restraint systems.

1. Pipe without field cut joints:
  - a. Manufactured restrained joints as listed in the specification section for the pipe material used.
  - b. Restrained coupling adaptors, such as Megalug style products, are not allowable for these locations.
2. Pipe with field cut joints, at field closure pieces, valves, and other appurtenances:

- a. Restrained coupling adaptors, compatible with the pipe material used.
  - b. Manufactured restrained joints compatible with the pipe material used.
- 3. Fittings:
  - a. Manufactured restrained joints compatible with the pipe material used.
  - b. Restrained coupling adaptors with standard mechanical joint fittings in lieu of the above.

9.5 Pages 15061-1 thru 7.

INSERT the attached Section 15061. This section specifies the requirements for using Steel pipe on the project.

DELETE in Sections 01060 thru 15103 "DIP or PCCP" and REPLACE with "DIP, PCCP or Steel". Steel pipe may be used as specified on the project as a material of option in addition to PCCP and DIP.

9.6 Page 15062-2. Line 29.

INSERT "or AWWA C153" after "AWWA C110".

9.7 Page 15062-3. Line 2.

DELETE "16 mm" and REPLACE with "16 mil".

INSERT B.1. "a. Carbolite 300m Bitumastic or equal."

9.7 Page 15070-2. Line 16.

DELETE "190 psi" and REPLACE with "65 psi" for the transient pressure.

INSERT 2.1.A..2 "3) Test Pressure: 190 psi".

9.10 Page 15070-3. Lines 20-22.

INSERT "and/or AWWA C200 (See Section 15061)" after "AWWA C301 and AWWA C304".

The complete statement should read: "Provide specials and fittings in accordance with AWWA C301 and AWWA C304 and/or AWWA C200 (See Section 15061) and construct in accordance with stated design pressures equal to or greater than that of the adjacent pipe."

**D. DRAWINGS.**

1. Cover Sheet – REPLACE "Specification # 05-285" with "Specification # 05-258".
2. Sheet 2 – DELETE existing Sheet 2 and REPLACE with the attached Sheet 2.
  - a. The changes reflect changes to the unit bid items and quantities.
3. Sheet 5 – Change to casing pipe thickness.
  - a. 24" Casing Pipe. A 30" casing will be needed for 16" pipe. DELETE "24" and REPLACE with "30" inch casing pipe  
DELETE "0.286" and REPLACE with "0.344"
  - b. 36" Casing Pipe. DELETE "0.286" inches and REPLACE with "0.344" inches.
  - c. 42" Casing Pipe. DELETE "0.286" inches and REPLACE with "0.344" inches.
4. Sheet 8 – Vertical Control Monuments (Benchmarks)
  - a. Benchmark C. DELETE the elevation "EL = 1,267.67" and REPLACE with the elevation "EL = 1,267.81"
5. Sheet 22 – Quantity Increase Remove & Replace Concrete Headwall
  - a. INSERT Remove & Replace Concrete Headwall additional quantity "Station 372+55.00, 0.0 offset, 1 Each".
6. Sheet 23 – Offset correction and new unit bid item.
  - a. Concrete collar Station 381+15.00: DELETE "15' Lt." and Insert "15" Rt."
  - b. New Unit Bid Item: INSERT "Remove & Salvage 30" CMP Pipe, Station 381+15.00, Offset Lt. & Rt., 25 LF".

**E. ANSWERS TO QUESTIONS RECEIVED**

Question: Can C153 Class Fittings be used in lieu of C110 as specified?

Answer: Yes per Addendum 2 – 9.6.

Question: Do the fittings and pipe material inside the Air Relief Manholes need to be externally coated as specified?

Answer: No, only materials in contact with the soil up to the wall of the manhole need to be coated.

Question: Due to the highly corrosive soils, can PVC be allowed as an option on any or all sizes of pipe?

Answer: No



Question: Does the Holiday testing on the pipe need to be performed in the field before installation, or just at the plant?

Answer: Testing will be needed in the field before installation. See Section 13110.

Question: Are the interim and final completion dates going to be extended?

Answer: Yes per Addendum 2 – 6.2, 6.3 & 6.4.

Question: It appears that if using PCCP pipe the 16" water main in the 24" casing will have at most 1/2" clearance between the pipe and casing at the bells. this is not enough space to get sand blown into the casing. Will the engineer consider a larger casing or deleting the sand from the casing?

Answer: Yes per Addendum 2 – Sheet 5.

#### **F. ACKNOWLEDGEMENT BY BIDDER.**

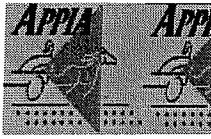
Each Bidder is required to acknowledge receipt of this Addendum No. 2 in the space provided in the Proposal.

The Pre-bid Meeting Minutes from November 1, 2005 are attached.

Date Issue: November 7, 2005

HDR





**City of Lincoln**  
**Project Item Schedule**  
**803202**

**Description:** Water Distribution Main 803202, 803203 and 803204

**Location:** Water Distribution Main

**Work Type:**

**Road Type:**

**Bid opening Date:** 11/16/2005 AT 12:00 pm.

**Project Items**

Item Number	Quantity	Unit	Unit Price	Extension
Section: 1 Default Section				
0.2000	1.000	LS	\$	\$
Const Staking				
01.0210	264.000	LF	\$	\$
Ty "A" Sawing				
10.0010	300.000	TON	\$	\$
Crushed Rock Surfacing (In Place)				
10.0020	182.000	TON	\$	\$
Gravel Surfacing (In Place)				
21.0200	12.000	LF	\$	\$
30" RCP Storm Sewer, CI IV				
21.0230	20.000	LF	\$	\$
18" RCP Storm Sewer, CI IV				
21.1280	32.000	LF	\$	\$
Rem 30" Storm Sewer Pipe				
21.1310	20.000	LF	\$	\$
Rem 18" Storm Sewer Pipe				
21.1540	1.000	EA	\$	\$
Rem & Reset 18" RC FES				

Item Number	Quantity	Unit	Unit Price	Extension
21.2111	28.000	TON	\$	\$
Rip-Rap (In Place)				
20.0192	65.000	LF	\$	\$
Boring for 30" Water Main				
20.0193	264.000	LF	\$	\$
Boring for 24" Water Main				
20.0194	396.000	LF	\$	\$
Boring for 16" Water Main				
23.0622	2.000	EA	\$	\$
16" X 6" Reducer, MJ				
23.0646	2.000	EA	\$	\$
16" Solid Sleeve, MJ (L=15")				
23.0644	1.000	EA	\$	\$
24" Solid Sleeve, MJ (L=15")				
23.0592	1.000	EA	\$	\$
6" Anchoring Elbow, MJ				
23.0665	19.000	CY	\$	\$
Conc for Thrust Blocks & Anchorages (In Place)				
23.0670	1,010.000	LBS	\$	\$
Reinf Stl for Thrust Blks & Anchorages				
23.0970	3.000	EA	\$	\$
Rem & Salvage Plug				
23.1010	1.000	EA	\$	\$
Rem & Salvage Reducer				
23.1030	2.000	EA	\$	\$
Rem & Reset Hydrant (Cmpl)				
23.1110	1.000	EA	\$	\$
Rem Plug				

Item Number	Quantity	Unit	Unit Price	Extension
50.0015	1.000	LS	\$	\$
Misc Corrosion Protection				
50.0040	40.000	SY	\$	\$
Misc Rem & Repl 9" Conc Pavt, (L3500)				
50.0040	86.000	SY	\$	\$
Misc Asphalt Drive				
50.0001	1.000	EA	\$	\$
Misc 30" Solid Sleeve, MJ, RJ				
50.0001	1.000	EA	\$	\$
Misc 30" x 12" Cross, MJ, RJ				
50.0001	1.000	EA	\$	\$
Misc 30" x 8" Tee, MJ, RJ				
50.0001	2.000	EA	\$	\$
Misc 30" x 22.5 Deg Bend, MJ, RJ				
50.0001	1.000	EA	\$	\$
Misc 30" x 11.25 Deg Bend, MJ, RJ				
50.0001	1.000	EA	\$	\$
Misc 30" x 24" Eccentric Reducer FLG				
50.0001	5.000	EA	\$	\$
Misc 16" Insulating Joint				
50.0001	1.000	EA	\$	\$
Misc 24" Insulating Joint				
50.0001	1.000	EA	\$	\$
Misc 30" Insulating Joint				
50.0001	1.000	EA	\$	\$
Misc 8" Insulating Joint w/Blind Flange				
50.0001	4.000	EA	\$	\$
Misc 12" Insulating Joint w/Blind Flange				

Item Number	Quantity	Unit	Unit Price	Extension
50.0001	1.000	EA	\$	\$
Misc 16" Insulating Joint w/Blind Flange				
50.0001	1.000	EA	\$	\$
Misc Manual Air Relief Valve				
50.0001	4.000	EA	\$	\$
Misc Blow Off Structure				
50.0001	3.000	EA	\$	\$
Misc Air Relief Valve/Vault				
50.0005	2,760.000	LF	\$	\$
Misc 16" Water Main				
50.0005	7,596.000	LF	\$	\$
Misc 24" Water Main				
50.0005	2,594.000	LF	\$	\$
Misc 30" Water Main				
50.0001	6.000	EA	\$	\$
Misc 16" Joint Restraint				
50.0005	396.000	LF	\$	\$
Misc 16" Water Main in Boring				
50.0005	264.000	LF	\$	\$
Misc 24" Water Main in Boring				
50.0005	65.000	LF	\$	\$
Misc 30" Water Main in Boring				
50.0015	1.000	LS	\$	\$
Misc Traffic Control				
50.0015	1.000	LS	\$	\$
Misc Mobilization/Demobilization				
50.0015	1.000	LS	\$	\$
Misc Clearing, Grubbing and Tree Removal				

Item Number	Quantity	Unit	Unit Price	Extension
50.0015	1.000	LS	\$	\$
Misc Tree Removal (Defined Area)				
50.0020	5.000	AC	\$	\$
Misc Seeding and Mulching				
50.0040	4,505.000	SY	\$	\$
Misc Turf Reinforcement Mat				
50.0015	1.000	LS	\$	\$
Misc Erosion and Sediment Control				
50.0005	175.000	LF	\$	\$
Misc Remove Fence				
50.0001	10.000	EA	\$	\$
Misc Remove & Reset Mailboxes				
50.0040	75.000	SY	\$	\$
Misc Remove & Replace Asphalt Surfacing				
50.0040	86.000	SY	\$	\$
Misc Remove Driveway Surfacing				
50.0005	20.000	LF	\$	\$
Misc Remove & Replace Curb & Gutter				
50.0005	294.000	LF	\$	\$
Misc Remove & Replace Driveway Culvert Pipe (18")				
50.0001	3.000	EA	\$	\$
Misc Remove & Replace Conc. Headwall (30")				
50.0005	40.000	LF	\$	\$
Misc Remove & Replace 6" Wide Rock Headwall				
50.0005	15.000	LF	\$	\$
Misc Remove & Reset Timber Headwall				
50.0005	120.000	LF	\$	\$
Misc Remove & Reset Guardrail				

Item Number	Quantity	Unit	Unit Price	Extension
50.0005	152.000	LF	\$	\$
Misc 30" CMP Storm Sewer Pipe				
50.0001	1.000	EA	\$	\$
Misc 30" CMP FES				
50.0001	2.000	EA	\$	\$
Misc Concrete Collar (30")				
50.0001	3.000	EA	\$	\$
Misc 30" x 24" FLG x PE				
50.0001	1.000	EA	\$	\$
Misc 24" x 24" FLG x PE				
50.0001	8.000	EA	\$	\$
Misc 16" x 24" FLG x PE				
50.0001	4.000	EA	\$	\$
Misc 12" x 24" FLG x PE				
50.0001	1.000	EA	\$	\$
Misc 8" x 24" FLG x PE				
50.0001	2.000	EA	\$	\$
Misc 24" FLG x MJ, RJ				
50.0001	3.000	EA	\$	\$
Misc 16" FLG x MJ, RJ				
50.0001	2.000	EA	\$	\$
Misc Remove & Salvage 16" Butterfly Valve				
50.0001	2.000	EA	\$	\$
Misc Re-Install Salvaged 16" Butterfly Valve				
50.0001	1.000	EA	\$	\$
Misc Re-Install Salvaged 16" x 16" Tee				
50.0001	1.000	EA	\$	\$
Misc Remove & Salvage 16" x 16" Tee				

Item Number	Quantity	Unit	Unit Price	Extension
50.0010	4,770.000	CY	\$	\$
Misc Fill for Water Main (In Place)				
50.0001	2.000	EA	\$	\$
Misc 24" Butterfly Valve, MJ, RJ				
50.0001	5.000	EA	\$	\$
Misc 16" Butterfly Valve, MJ, RJ				
50.0001	4.000	EA	\$	\$
Misc 12" Butterfly Valve, MJ, RJ				
50.0001	1.000	EA	\$	\$
Misc 16" x 90 Deg. Bend, MJ, RJ				
50.0001	2.000	EA	\$	\$
Misc 16" x 45 Deg. Bend, MJ, RJ				
50.0001	3.000	EA	\$	\$
Misc 24" x 22.5 Deg. Bend, MJ, RJ				
50.0001	1.000	EA	\$	\$
Misc 24" x 11.25 Deg. Bend, MJ, RJ				
50.0001	2.000	EA	\$	\$
Misc 16" x 11.25 Deg. Bend, MJ, RJ				
50.0001	3.000	EA	\$	\$
Misc 24" x 16" Tee, MJ, RJ				
50.0001	2.000	EA	\$	\$
Misc 24" x 12" Tee, MJ, RJ				
50.0001	1.000	EA	\$	\$
Misc 16" x 6" Tee, MJ, RJ				
50.0001	2.000	EA	\$	\$
Misc 16" x 16" Tee, MJ, RJ				
23.0450	1.000	EA	\$	\$
8" Gate Valve, MJ				



Item Number	Quantity	Unit	Unit Price	Extension
50.0005	25.000	LF	\$	\$
Misc Remove & Salvage 30" CMP Pipe				
Section 1 Total:				\$
Estimate Total:				\$

Company Name: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

The undersigned, having full knowledge of the requirements of the City of Lincoln for the below listed phases and the contract documents (which include Notice, Instructions, this Proposal, Specifications, Contract, and any and all addenda) and all other conditions of the Proposal, agrees to enter into a contract with the City the below listed fees for the performance of this Specification, complete in every respect, in strict accordance with the contract documents at and for fees listed below.

**ADDENDA RECEIPT:** The receipt of addenda to the specification numbers \_\_\_\_ through \_\_\_\_ are hereby acknowledged. Failure of any submitter to receive any addendum or interpretation of the specifications shall not relieve the submitter from any obligations specified in the request. All addenda shall become part of the final contract document.

**Indicate the name of the pipe material you intend to use for:**

16" (DIP, PCCP or Steel)

24" (DIP, PCCP or Steel)

30" (DIP, PCCP or Steel)

The full name and address of each person, firm, or corporation interested in the Proposal must be here stated.

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Dated in \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 2005.

SIGNATURE OF BIDDER

IF A CORPORATION

ATTEST:

\_\_\_\_\_(Seal)

\_\_\_\_\_  
(Name of Corporation)

\_\_\_\_\_  
(Address)

By: \_\_\_\_\_  
(Duly Authorized Official)

\_\_\_\_\_  
(Legal Title of Official)

IF OTHER TYPE ORGANIZATION

\_\_\_\_\_  
(Name and Type of Organization)

\_\_\_\_\_  
(Address)

By: \_\_\_\_\_  
(Member)

IF AN INDIVIDUAL

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Address)

## CONTRACT AGREEMENT

The Contractor agrees to (a) furnish all tools, equipment, supplies, superintendence, transportation, and other construction accessories, services, and facilities; (b) furnish all materials, supplies, and equipment specified to be incorporated into and form a permanent part of the complete Work; (c) provide and perform all necessary labor in a substantial and workmanlike manner and in accordance with the provisions of the Contract Documents; and (d) execute, construct, and complete all Work included in and covered by the City of Lincoln's official award of this Contract to the Contractor, such award being based on the acceptance by the City of Lincoln of the Contractor's Proposal, or part thereto, as follows:

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The City of Lincoln agrees to pay to the Contractor for the performance of the work embraced in this Contract, and the Contractor agrees to accept as full compensation therefore, the sums and prices for all Work covered by and included in the Contract award and designated above, payment thereof to be made in the manner provided in the General Provisions and Requirements.

COMPLETION DATE – The Contractor agrees that the Work in this Contract shall begin as soon after the Notice to Proceed as is necessary for the Contractor to complete the Work within the number of calendar days allowed and prior to the stated completion date. The completion date shall be N/A calendar days after the beginning or construction shall be no later than SEPTEMBER 15, 2006.

GUARANTEE – The guarantee periods as stated in Section IX, Paragraph A of the City of Lincoln Standard Specifications for Municipal Construction shall be applicable to this project.

CONTRACT DOCUMENTS – The Contract Documents comprise the Contract, and consist of the following:

1. City of Lincoln Standard Specifications for Municipal Construction (1999 Edition) & 2004 Supplemental Specification
2. Proposal Forms
3. Contract Agreement Forms
4. Commentary to Accompany Construction Bonds
5. Construction Performance Bond
6. Construction Payment Bond
7. Special Provisions
8. Lincoln Standard Plans
9. Standard Specifications for Highway Construction Nebraska Department of Roads (1997 Edition)
10. Supplemental Specifications (July 12, 2001) to the Standard Specifications for Highway Construction Nebraska Department of Roads (1997 Edition)
11. Plan and Profile Detail Sheets
12. Any executed Addenda or Change Orders
13. This Project is **NOT** tax exempt.

## SPECIAL PROVISION

The City of Lincoln Standard Specifications, General Provisions and Requirements has been amended as follows:

### III. Award and Execution of Contract.

#### B. Construction Performance and Construction Payment Bonds and Execution of Contract.

Within **five (5) days** after the acceptance of the bid, the successful Bidder must execute a written Contract between the Bidder and the City, Which Contract will incorporate the City's Contract Documents and be on forms provided by the City, Construction Performance and Construction Payment Bonds, in a sum not less than the contract price, executed by the Bidder and by a corporate surety company authorized to transact business in the State of Nebraska.

## SPECIAL PROVISION

INSERT into Article VII the following:

### " VII. LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

#### 1. GENERAL PROVISIONS

- A. **Indemnification.** The Contractor shall indemnify and save harmless the City of Lincoln, Nebraska and Lancaster County, Nebraska from and against all losses, claims, damages, and expenses, including attorney's fees, arising out of or resulting from the performance of the contract that results in bodily injury, sickness, disease, death, or to injury to or destruction of tangible property, including the loss of use resulting therefrom and is caused in whole or in part by the Contractor, any subcontractor, any directly or indirectly employed by any of them or anyone for whose acts any of them may be liable. This section will not require the Contractor to indemnify or hold harmless the City of Lincoln for any losses, claims, damages, and expenses arising out of or resulting from the sole negligence of the City of Lincoln, Nebraska.
- B. **Approved Coverage Prior to Commencing Work/Subcontractors Included.** Contractor shall purchase and maintain in place insurance to Protect Contractor and City against all liabilities and hazards as provided in this article throughout the duration of the Contract. Contractor shall not commence work under this contract until the Contractor has obtained all insurance required under this Section and such insurance has been approved by the City Attorney for the City of Lincoln, nor shall the Contractor allow any subcontractor to commence work on any subcontract until all similar insurance required of the subcontractor has been so obtained and approved.
- C. **Occurrence Basis Coverage.** All insurance shall be provided on an *occurrence basis* and not on a claims made basis, except for hazardous materials, errors and omissions, or other coverage not reasonably available on an occurrence basis; provided that all such claims made coverage is subject to the prior written approval of the City Attorney and must be clearly indicated as such in any certificate showing coverage.
- D. **Authorized and Rated Insurers Required.** All insurance coverage is to be placed with insurers authorized to do business in the State of Nebraska and must be placed with an insurer that has an A.M. Best's Rating of no less than A:VII unless specific approval has been granted by the City Attorney.
- E. **Certificates Showing Coverage.** All certificates of insurance shall be filed with the City Attorney, and may utilize an appropriate standard ACORD Certificate of Insurance form showing the specific limits of insurance coverage required by this Article; provided that restrictions, qualifications or declarations inconsistent with the requirements of this Article shall not relieve the Contractor from providing insurance as required herein. Such certificates shall show the City of Lincoln as additional insured, including by specific endorsement where necessary, as indicated in the following requirements. Such certificate shall specifically state that the related insurance policies are to be endorsed to require the insurer to provide the City of Lincoln thirty days, notice of cancellation, non-renewal or any material reduction in the stated amounts or limits of insurance coverage.
- F. **Terminology.** The terms "insurance," "insurance policy," or "coverage" as used in this article are used interchangeably and shall have the same meaning as "insurance" unless the context clearly requires otherwise. References to "ISO®" forms are merely for convenience and ease of reference, and an equivalent or better form as determined acceptable by the City Attorney may be used. (Note: ISO® is a registered trademark of ISO Properties, Inc.)

## 2. INSURANCE REQUIREMENTS

A. **Scope of Required Coverage.** The Contractor shall take out and maintain during the life of Contract such insurance in the forms and minimum amounts as specified in this Article and as will protect Contractor and City from the following claims arising out of or resulting from or in connection with the Contractor's operations, undertakings or omissions directly or indirectly related to the Contract, whether by the Contractor or any Subcontractor or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- (1) Claims under workers' compensation, disability benefit, or other employee benefit acts;
- (2) Claims arising out of bodily injury, occupational sickness or disease, or death of an employee or any other person;
- (3) Claims customarily covered under personal injury liability coverage;
- (4) Claims other than to the work itself arising out of an injury to or destruction of tangible property, including the loss of use resulting therefrom;
- (5) Claims arising out of ownership, maintenance or use of any motor vehicle;
- (6) Railroad protective liability coverage in the event the contract involves work to be performed within 50 feet of any railroad property and affecting any railroad bridge or trestle, tracks, road beds, tunnel, underpass or crossing.

B. **Worker's Compensation Insurance and Employer's Liability Insurance.** The Contractor shall provide applicable statutory Worker's Compensation Insurance with minimum limits as provided below covering all Contractor's employees, and in the case of any subcontracted work, the Contractor shall require the subcontractor similarly to provide Worker's Compensation Insurance for Subcontractor's employees.

The Contractor shall provide Employer's Liability Insurance with minimum limits as provided below placed with an insurance company authorized to write such insurance in all states where the Contractor will have employees located in the performance of this contract, and the Contractor shall require each Subcontractor similarly to maintain Employer's Liability Insurance on the Subcontractor's employees.

Coverage	Listing	Min Amt	Notes
<b>Worker's Comp.</b>			
	State	Statutory	
	Applicable Federal	Statutory	
<b>Employer's Liability</b>			
	Bodily Injury by accident	\$500,000	each accident
	Bodily Injury by disease	\$500,000	each employee
	Bodily Injury	\$500,000	policy limit

C. **Commercial General Liability Insurance.**

- (1) The Contractor shall provide Commercial General Liability Insurance in a policy form providing no less comprehensive and no more restrictive coverage than provided under the ISO® form CG00010798 or newer with standard exclusions "a" through "o" and with minimum limits as provided below. Any other exclusions that operate to contradict or materially alter the standard exclusions shall be specifically listed on the certificate of insurance and shall be subject to the prior written approval of the City Attorney.

COVERAGE	MIN AMT	NOTES
General	\$ 2,000,000	Aggregate
Products and Completed Operations	\$ 2,000,000	Aggregate
Personal and Advertising Injury	\$ 1,000,000	
Each Occurrence	\$ 1,000,000	
Fire Damage Limit	\$ 100,000	any one fire
Medical Damage Limit	\$ 10,000	any one person

(2) The required Commercial General Liability Insurance shall also include the following:

- Coverage for all premises and operations
- Endorsement to provide the general aggregate per project endorsement
- Personal and advertising injury included
- Operations by independent contractors included
- Contractual liability coverage included
- X.C.U. Coverage including coverage for demolition of any building or structure, collapse, explosion, blasting, excavation and damage to property below the surface of ground.
- Any fellow employee exclusions shall be deleted
- Coverage shall not contain an absolute pollution exclusion, and applicable remaining coverage shall apply for pollution exposures arising from products and completed operations.
- Coverage for products and completed operations maintained for duration of work and shall be maintained for a minimum of three years after final acceptance under the Contract or the warranty period for the same whichever is longer, unless modified in any Special Provisions.
- Contractual Liability coverage shall include contractually assumed defense costs in addition to any policy limits.

(3) If work is to be performed within 50 feet of any railroad property and affecting any railroad bridge or trestle, tracks, road beds, tunnel, underpass or crossing, Railroad Contractual Liability Endorsement (ISO® form CG24170196 or newer).

(4) City may at its sole option, and in lieu of being additional insured on the Contractor's policy, by written requirement in the Special Provisions or by written change order, require Contractor to provide a separate Owner's Protective liability policy. The premium cost to obtain such insurance shall be as paid as provided in the Special Provision or change order, with any related cost savings as reasonably determined by the City being reimbursed or paid to the City.

**D. Vehicle liability insurance coverage.**

- The Contractor shall provide reasonable insurance coverage for all owned, non-owned, hired and leased vehicles with specific endorsements to include contractual liability coverage and delete any fellow employee exclusion.
- If specifically required in the Special Provisions, the required coverage shall also include an endorsement for auto cargo pollution (ISO® form CA 99 48).

- E. **Railroad Protective Liability.** If work is to be performed within 50 feet of any railroad property and affecting any railroad bridge or trestle, tracks, road beds, tunnel, underpass or crossing or otherwise required by the Special Provisions or applicable requirements of an affected railroad, the Contractor shall provide Railroad Protective Liability Insurance naming the affected railroad/s as insured with minimum limits for bodily injury and property damage of \$2,000,000 per occurrence, \$6,000,000 aggregate, or such other limits as required in the Special Provisions or by the affected railroad. The original of the policy shall be furnished to the railroad and a certified copy of the same furnished to the City Attorney's office prior to any related construction or entry upon railroad premises by the Contractor or for work related to the Contract.
- F. **Umbrella or Excess Insurance.** The Contractor shall provide Umbrella or Excess insurance coverage with minimum coverage limits of \$3,000,000 each occurrence and aggregate.
- G. **City included as Insured on Contractor's Policy – Endorsements required.**  
The Contractor shall provide adequate written documentation, including applicable ACORD certificates, declarations pages or other acceptable policy information demonstrating that the City is included as an additional insured along with the Contractor with respect to all of the coverages required in this "Section 2A Insurance Requirements," except for applicable Worker's Compensation coverage, to include all work performed for the City and specifically including, but not limited to, any liability caused or contributed to by the act, error, or omission of the Contractor, including any related subcontractors, third parties, agents, employees, officers or assigns of any of them. The documentation or endorsement shall specifically include the city as an additional insured for purposes of Products and Completed Operations. The inclusion of the City as additional insured shall be for coverage only on a primary basis for liability coverage, and no coverage shall contain a policy or other restriction or attempt to provide restricted coverage for the City, whether on an excess, contributory or other basis regardless of any other insurance coverage available to the City.

### 3. CONTRACTOR'S INDEMNITY – CONTRACTUAL LIABILITY INSURANCE

- A. To the same extent as specified for minimum coverage requirements in Section 2 above, the required insurance shall include contractual liability coverage to include indemnification and hold harmless agreements and provisions in the related Contract Documents, specifically including the following provision:
- (1) To the fullest extent permitted by law, Contractor shall defend, indemnify, and hold harmless the City, its officers, agents, employees, volunteers and consultants from and against any and all claims, damages, losses, costs, and expenses, including but not limited to attorney's fees and costs arising out of or related to the Contract or the Contractor's activities, errors, or omissions related to the Contract including liabilities or penalties imposed by applicable, law, rule or regulation in connection therewith; provided that such claims, damages, losses, costs, and expenses, including but not limited to attorney's fees and costs:
    - is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use therefrom, and
    - is caused in whole or in part by any act or omission of the Contractor, any subcontractor, agent, officer, employee, or assigns of the same or by anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in whole or in part by a party indemnified hereunder.
  - (2) Such indemnification shall not be construed to negate, abridge, limit or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this section.



- B. In any and all claims by any employee (whether an employee of the Contractor or subcontractor, or their respective agents or assigns by anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable as an employer) in whole or in part against the City, its officers, agents, employees, volunteers or consultants, the above indemnification shall not be limited in any way by the amount of damages, compensation, benefits or other contributions payable by or on behalf of a the employer under Worker's Compensation statutes, disability benefit acts, or any other employee benefit or payment acts as the case may be.
- C. The obligations of indemnification herein shall not include or extend to:
  - (1) Any outside engineer's or architect's professional errors and omissions involving the approval or furnishing of maps, drawings, opinions, reports, surveys, change orders, designs or specifications within the scope of professional services provided to the City and related to the Contract; and
  - (2) Any claims arising out of the negligence of the City to the extent the same is the sole and proximate cause of the injury or damage so claimed.
- D. In the event of any litigation of any such claims shall be commenced against the City, Contractor shall defend the same at Contractor's sole expense upon notice thereof from the City. Contractor shall notify the insuring company that the City reserves and does not waive any statutory or governmental immunity and neither Contractor, nor Contractor's counsel whether employed by Contractor or by an insurer on behalf of the Contractor shall waive such defenses or enter into any settlement or other disposition requiring waiver of any defenses or immunity of the City without the express written consent of the City.

#### **4. CONTRACTOR'S INSURANCE FOR OTHER LOSSES.**

- A. Contractor shall assume full responsibility for all loss or damage from any cause whatsoever to any tools owned, rented or used in connection with the Contract including any tools, machinery, equipment, storage devices, containers, sheds, temporary structures, staging structures, scaffolding, fences, forms, braces, jigs, screens, brackets, vehicles and the like owned or rented by Contractor, or Contractor's agents, subcontractors, suppliers, or employees.
- B. In connection with the above, Contractor shall cause or require any applicable insurance related to physical damage of the same to provide a waiver of a right of subrogation against the City.

#### **5. NOTIFICATION IN EVENT OF LIABILITY OR DAMAGE.**

- A. The Contractor shall promptly notify the City in writing and provide a copy of all claims and information presented to any of Contractor's insurance carrier/s upon any loss or claim or upon any occurrence giving rise to any liability or potential liability related to the Contract or related work. The notice to the City shall include pertinent details of the claim or liability and an estimate of damages, names of witnesses, and other pertinent information including the amount of the claim, if any.
- B. In the event the City receives a claim or otherwise has actual knowledge of an any loss or claim arising out of the Contract or related work and not otherwise known to or made against the Contractor, the City shall promptly notify the Contractor of the same in writing, including pertinent details of the claim or liability; Provided, however the City shall have no duty to inspect the project to obtain such knowledge, and provided further that the City's obligations, if any, shall not relieve the Contractor of any liability or obligation hereunder.

#### **6. PROPERTY INSURANCE/ BUILDER'S RISK.**

- A. The Contractor shall provide property insurance (a/k/a Builder's Risk or installation Floater) on all Projects involving construction or installation of buildings or structures and other projects where provided in the Special Provisions. Such insurance shall be provided in the minimum amount of the

total contract sum and in addition applicable modifications thereto for the entire work on a replacement cost basis. Such insurance shall be maintained until the City completes final acceptance of the work as provided in the Contract. Such insurance shall be written and endorsed, where applicable, to include the interests of the City, Contractor, Subcontractors, Sub-subcontractors in the related work. The maximum deductible for such insurance shall be \$5,000 for each occurrence, which deductible shall be the responsibility of the Contractor. Such insurance shall contain a "permission to occupy" endorsement.

- B. All related Property Insurance shall be provided on a "Special Perils" or similar policy form and shall at a minimum insure against perils of fire including extended coverage and physical loss or damage including without limitation or duplication of coverage: flood, earthquake, theft, vandalism, malicious mischief, collapse, and debris removal, including demolition whether occasioned by the loss or by enforcement of applicable legal or safety requirements including compensation or costs for City's related costs and expenses (as owner) including labor required as a result of such loss.
- C. All related Property Insurance shall include coverage for falsework, temporary buildings, work stored off-site or in-transit to the site, whether in whole or in part. Coverage for work off-site or in-transit shall be a minimum of 10% of the amount of the policy.
- D. The Contractor's Property Insurance shall be primary coverage for any insured loss related to or arising out of the Contract and shall not be reduced by or coordinated with separate property insurance maintained by the City."

## SPECIAL PROVISION

Add into IX. GUARANTEE AND PAYMENT, D. PROGRESS PAYMENT

### APPLICATION FOR PAYMENT – UNIT PRICE DEFINITIONS

1. All estimated quantities stipulated in the Contract Documents for unit price items are approximate and are to be used only as a basis for estimating the probable cost of the Work and for the purpose of comparing the bids submitted for the Work. The actual amounts of the work done and materials furnished under unit price items may differ from the estimated quantities.
2. Quantities and measurements of unit price items supplied or placed in the Work and verified by the Engineer shall determine final payment. The Contractor shall seek written permission from Engineer before commencing any unit price work which will bring the actual amount of work done over the contract amount for each bid item.
3. Final payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the Engineer multiplied by the unit sum/price for Work which is incorporated in or made necessary by the Work.
4. The total Bid Price shall cover all Work required by the Contract Documents. All costs in connection with the proper and successful completion of Work, including furnishing all materials, equipment, supplies, and appurtenances; furnishing all bonds, insurance, permits, and submittals; providing all mobilization, construction plant, equipment, and tools; and performing all necessary labor and supervision to fully complete the Work, shall be included in the unit and lump sum prices bid. All Work not specifically set forth as a pay item in the Bid Form shall be considered a subsidiary obligation of Contractor and all costs in connection therewith shall be included in the prices bid.
5. Unless otherwise authorized by the Engineer, all public or private property, utilities, structures, or other features regardless of location or character, removed or damaged by construction operations, whether by Contractor or his Subcontractors, and whether within or outside the construction limits, easements, and rights-of-way, shall be restored as a subsidiary obligation of Contractor, and no direct payment shall be made therefore.
6. Unit price definitions for items not defined in the "City of Lincoln, Nebraska, Standard Specifications for Municipal Construction" are in the following. The unit prices shall encompass all work required to complete the Work in accordance with the Drawings and Specifications.

Construction Staking. Item shall be furnished, constructed and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*"

Type "A" Sawing. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*"

Crushed Rock Surfacing (In Place). The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*" The unit quantity listed in the proposal includes rock for drive replacement as well as rock to be used for temporary surfacing until asphalt can be placed where removed due to seasonal requirements for placing asphalt after April 1.

Gravel Surfacing (In Place). The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*"

30" RCP Storm Sewer, Class IV. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*"

18" RCP Storm Sewer, Class IV. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*"

Remove 30" Storm Sewer Pipe. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*"

Remove 18" Storm Sewer Pipe. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*"

Remove and Reset 18" RC FES. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*"

Rip-Rap (In Place). The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*"

Boring for 30" Water Main. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction*" and includes the cost of casing pipe.

Boring for 24" Water Main. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction*" and includes the cost of casing pipe.

Boring for 16" Water Main. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction*" and includes the cost of casing pipe.

16" x 6" Reducer, MJ, RJ. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction*" with the exception that the pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings.

16" Solid Sleeve (L=15"), MJ, RJ. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction*" with the exception that the pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings.

24" Solid Sleeve (L=15"), MJ, RJ. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction*" with the exception that the pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings.

6" Anchoring Elbow, MJ. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*"

Concrete for Thrust Blocks and Anchorages. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*"

Reinf. Stl for Thrust Blocks and Anchorages. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*"

Remove and Salvage Plug. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction*" and includes removal of the accompanying plug blocking.

Remove and Salvage Reducer. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*"

Remove and Reset Hydrant (Complete). The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction.*"

Remove Plug. The unit bid item shall be furnished, constructed, and payment made in accordance with the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction*" and includes the removal of the existing plug blocking.

Misc. Corrosion Protection. This unit bid item includes all costs included with supply, installation, labor, materials, equipment and testing certification for the corrosion protection system on the water line piping. Approximately 39 test stations and 149 anodes will be required for this project. Locations for test stations and anodes are indicated on the Contract Drawings. Standard details for installation are located in Division 13 of the specifications. The Contractor is responsible for providing certification that the corrosion protection installed is functioning properly. The unit price shall include the materials, labor, inspection/certification services and all other work required to complete the corrosion protection systems work not included under another bid item.

Misc. Remove and Replace 9" Conc. Pvmnt. (L3500). The pay item shall include all the necessary labor, materials and equipment to remove and replace concrete pavement that must be removed to install the water line. Measurement is based upon the total SY required to remove and replace the pavement at the unit price bid. The pay item is one (1) square yard (SY) of 9" concrete Pavement removed and replaced.

Misc. Asphalt Drive. The pay item shall include all the necessary labor, materials and equipment to replace existing asphalt drives with a minimum thickness not less than existing prior to removal that are disturbed during the course of construction. Measurement is based upon the total SY required to replace the existing drive materials at the unit price bid. The pay item is one (1) square yard (SY) of asphalt pavement drive placed.

Misc. 30" Solid Sleeve (L=15), MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 30" x 12" Cross, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 30" x 8" Tee, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 30" x 22.5 Degree Bend, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 30" x 11.25 Degree Bend, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 30" x 24" Eccentric Reducer, FLG. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for a FLG fittings. The pay item is one each (EA).

Misc. 16" Insulating Joint. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The pay item is one each (EA).

Misc. 24" Insulating Joint. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item is one each (EA).

Misc. 30" Insulating Joint. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item is one each (EA).

Misc. 8" Insulating Joint w/ Blind Flange. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The pay item is one each (EA).

Misc. 12" Insulating Joint w/ Blind Flange. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The pay item is one each (EA).

Misc. 16" Insulating Joint w/ Blind Flange. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The pay item is one each (EA).

Misc. Manual Air Relief Valve. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The pay item is one each (EA).

Misc. Blow off Structure. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. Construction of the blow off structure and piping inside the structure in accordance to LSP 310 is subsidiary to this item. The pay item is one each (EA).

Misc. Air Relief Valve/Vault. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the valve, vault and necessary piping inside the vault. Vault construction in accordance to LSD 310 is subsidiary to this item. The pay item is one each (EA).

Misc. 16" Water Main. The Contractor shall indicate on the bid proposal which pipe material was selected to determine the bid pricing. The unit bid item shall include all costs in connection with removing and stock piling topsoil, excavation and trenching, shoring, sheeting, bracing, dewatering, pipe embedment and foundation course, geotextile fabric if needed, piping, fittings, jointing materials, pipe laying, backfilling and compacting including replacing topsoil, surface construction removal and restoration, temporary fencing and gates, removal and replacement of existing fences, cleanup, all testing required, and all other appurtenant work required to complete the water main which is not included under another bid item.

- a) Payment for the water main in place shall be made on the basis of the unit prices bid for each size of pipe as applicable. Measurements for payment shall be made on a horizontal projection of the plane, and after installation of the pipe, on the basis of water main stationing as determined by the installation surveys, with all stations carefully measured. The measurement of the length of each line or run of pipe of each size shall begin and end at the locations indicated below.
  - 1) The end of the pipe, where not connected to any other pipe, fitting, or special under this Contract.
  - 2) The point of connection to any existing water line.
  - 3) The end of the pipe, where not connected to any other pipe, fitting, or special under this Contract.
  - 4) The measurement of each line or run of pipe for which payment is to be made on a unit price basis shall be made continuous through all fittings, specials, borings, and manholes structures installed between the ends of each such line.

Misc. 24" Water Main. The Contractor shall indicate on the bid proposal which pipe material was selected to determine the bid pricing. The unit bid item shall include all costs in connection with removing and stock piling topsoil, excavation and trenching, shoring, sheeting, bracing, dewatering, pipe embedment and foundation course, geotextile fabric if needed, piping, fittings, jointing materials, pipe laying, backfilling and compacting including replacing topsoil, surface construction removal and restoration, temporary fencing and gates, removal and replacement of existing fences, cleanup, all testing required, and all other appurtenant work required to complete the water main which is not included under another bid item.

- a) Payment for the water main in place shall be made on the basis of the unit prices bid for each size of pipe as applicable. Measurements for payment shall be made on a horizontal projection of the plane, and after installation of the pipe, on the basis of water main stationing as determined by the installation surveys, with all stations carefully measured. The measurement of the length of each line or run of pipe of each size shall begin and end at the locations indicated below.
  - 1) The end of the pipe, where not connected to any other pipe, fitting, or special under this Contract.
  - 2) The point of connection to any existing water line.
  - 3) The end of the pipe, where not connected to any other pipe, fitting, or special under this Contract.
  - 4) The measurement of each line or run of pipe for which payment is to be made on a unit price basis shall be made continuous through all fittings, specials, borings, and manholes structures installed between the ends of each such line.

Misc. 30" Water Main. The Contractor shall indicate on the bid proposal which pipe material was selected to determine the bid pricing. The unit bid item shall include all costs in connection with removing and stock piling topsoil, excavation and trenching, shoring, sheeting, bracing, dewatering, pipe embedment and foundation course, geotextile fabric if needed, piping, fittings, jointing materials, pipe laying, backfilling and compacting including replacing topsoil, surface construction removal and restoration, temporary fencing and gates, removal and replacement of existing fences, cleanup, all testing required, and all other appurtenant work required to complete the water main which is not included under another bid item.

- a) Payment for the water main in place shall be made on the basis of the unit prices bid for each size of pipe as applicable. Measurements for payment shall be made on a horizontal projection of the plane, and after installation of the pipe, on the basis of water main stationing as determined by the installation surveys, with all stations carefully measured. The measurement of the length of each line or run of pipe of each size shall begin and end at the locations indicated below.
  - 1) The end of the pipe, where not connected to any other pipe, fitting, or special under this Contract.
  - 2) The point of connection to any existing water line.
  - 3) The end of the pipe, where not connected to any other pipe, fitting, or special under this Contract.
  - 4) The measurement of each line or run of pipe for which payment is to be made on a unit price basis shall be made continuous through all fittings, specials, borings, and manholes structures installed between the ends of each such line.

Misc. 16" Joint Restraint. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item is for locations where the Contractor is to place restraint on existing piping when connecting to existing piping systems and at other locations where restraint is required but not defined as subsidiary to the cost of the fitting per other unit bid items. The pay item is one each (EA).

Misc. Water Main in Boring 16". The unit bid item shall include all costs in connection with installation of water main piping in the borings completed under other bid items. Work includes the restrained piping, fittings, jointing materials, pipe laying, sand filling, bracing, cleanup, all testing required, etc. and all other appurtenant work required to complete the water main, which is not included under another bid item. Payment for the water main in place shall be made on the basis of the unit prices bid for each size of pipe as applicable. Measurements for payment shall be made on a horizontal projection of the plane, and after installation of the pipe, on the basis of water main stationing as determined by the installation surveys, with all stations carefully measured. The measurement of the length of each line or run of pipe of each size shall begin and end at the locations indicated on the Contract Drawings.

Misc. Water Main in Boring 24". The unit bid item shall include all costs in connection with installation of water main piping in the borings completed under other bid items. Work includes the restrained piping, fittings, jointing materials, pipe laying, sand filling, bracing, cleanup, all testing required, etc. and all other appurtenant work required to complete the water main, which is not included under another bid item. Payment for the water main in place shall be made on the basis of the unit prices bid for each size of pipe as applicable. Measurements for payment shall be made on a horizontal projection of the plane, and after installation of the pipe, on the basis of water main stationing as determined by the installation surveys, with all stations carefully measured. The measurement of the length of each line or run of pipe of each size shall begin and end at the locations indicated on the Contract Drawings.

Misc. Water Main in Boring 30". The unit bid item shall include all costs in connection with installation of water main piping in the borings completed under other bid items. Work includes the restrained piping, fittings, jointing materials, pipe laying, sand filling, bracing, cleanup, all testing required, etc. and all other appurtenant work required to complete the water main, which is not included under another bid item. Payment for the water main in place shall be made on the basis of the unit prices bid for each size of pipe as applicable. Measurements for payment shall be made on a horizontal projection of the plane, and after installation of the pipe, on the basis of water main stationing as determined by the installation surveys, with all stations carefully measured. The measurement of the length of each line or run of pipe of each size shall begin and end at the locations indicated on the Contract Drawings.

Misc. Traffic Control. This unit bid item includes all costs included with maintaining temporary traffic control measures during construction. This includes, but is not limited to all traffic channelization, barrels, variable message boards, signage, flagman, etc. needed to meet the requirements set forth in the Contract Documents and in accordance with MUTCD, the Nebraska Department of Roads, Lancaster County and the City of Lincoln permit requirements. Payment shall be made on the basis of the lump sum price bid.



Misc. Mobilization/Demobilization. Payment for mobilization/demobilization shall be made on the basis of the fixed lump sum price bid indicated in the Bid Form. The fixed lump sum price bid for mobilization/demobilization shall be limited to the amount indicated in the Bid Form and shall include costs incurred for mobilization, including bonds, insurance, permits, moving onto the site and setup of plant and equipment, conducting utility locates, demobilization, surveys and record drawings, project clean up and all other mobilization/demobilization which is not covered under another bid item.

Misc. Clearing, Grubbing, and Tree Removal. Payment for clearing, grubbing, and tree removal work shall be made on the basis of the lump sum price bid. The lump sum price bid for tree clearing, grubbing, and tree removal shall include all costs incurred for completing the clearing, grubbing, and tree removal work, including protecting, trimming, pruning, repair, and replacement of trees and plants; removal, cutting, and disposal of trees and plants; root protection; temporary protective fencing; mulch, timber and steel plate protection for root systems; protection and restoration of landscaped areas, including trees, shrubs, flowers, mulch, ornaments, walls, rocks, and other appurtenances; and all other work required to complete the clearing, grubbing, and tree removal which is not included under another bid item.

Misc. Tree Removal (Defined Area). Payment for tree removal work shall be made on the basis of the lump sum price bid. The lump sum price bid for tree clearing, grubbing, and tree removal shall include all costs incurred for completing the tree removal work, including removal, cutting, and disposal of trees and plants; root protection; temporary protective fencing; mulch, timber and steel plate protection for root systems; and all other work required to complete the tree removal which is not included under another bid item. This defined area is the tree mass along Fletcher Ave. near North 14<sup>th</sup> Street as defined in the Contract Drawings.

Misc. Seeding and Mulching. Payment for seeding, mulching, and any necessary reseeding shall be made on the basis of the unit price per acre. The unit price bid for seeding shall include all seeding work where specified and required as a result of surface vegetation being disturbed during the execution of the Work under this Contract. The unit price shall include finish grading, the furnishing and spreading of topsoil, seed bed preparation, seed, fertilizing and mulch materials, seeding, fertilizing, planting, mulching, erosion control systems, maintenance operations, and all other work required to complete the seeding and mulching work not included under another bid item.

Misc. Turf Reinforcement Mat. This unit bid item includes all costs included with supply, installation, labor, materials and equipment to install turf reinforcement mat where indicated on the drawings. The unit bid item will be measured in square yards (SY) and will be measured by the installed measured area of mat placed. Payment shall be made on the basis of the total measured area of material installed multiplied by the unit bid price.

Misc. Erosion and Sediment Control. Payment for erosion and sediment control shall be made on the basis of lump sum price bid. The lump sum price bid for erosion and sediment control shall include all costs incurred for control of soil erosion, including the following:

- a) Obtaining all required erosion and sediment control permits.
- b) Establishing an erosion and sediment control plan.
- c) Constructing, operating, and maintaining all erosion and sediment control devices.
- d) Removing the erosion and sediment control devices as required and restoring the site.
- e) All other work required to complete the erosion and sediment control work, which is not included under another bid item.

Misc. Remove Fence. The pay item shall include all the necessary labor, materials and equipment to remove existing fence as indicated in the Contract Drawings. The Measurement is based upon the total LF required to remove the existing fence at the unit price bid. The pay item is one (1) linear foot (LF) of fence removed.

Misc. Remove and Reset Mailbox. The pay item shall include all the necessary labor, materials and equipment to remove and reset residential mailboxes where indicated in the Contract Drawings. The Measurement is based upon the total number of mailboxes reset at the unit price bid. The pay item is one (1) each (EA) mailbox removed and reset.

Misc. Remove and Replace Asphalt Surfacing. The pay item shall include all the necessary labor, materials and equipment to remove and replace to existing depth, asphalt surfacing on county roads that are disturbed during the course of construction. Measurement is based upon the total SY required to remove and replace the county road surfacing at the unit price bid. The pay item is one (1) square yard (SY) of asphalt surfacing removed and replaced.

Misc. Remove Driveway Surfacing. The pay item shall include all the necessary labor, materials and equipment to remove existing asphalt drives that are disturbed during the course of construction. Measurement is based upon the total SY required to remove the existing drive materials at the unit price bid. The pay item is one (1) square yard (SY) of asphalt pavement drive removed.

Misc. Remove and Replace Curb and Gutter. The pay item shall include all the necessary labor, materials and equipment to remove and replace existing concrete curb and Gutter that must be removed during the course of construction. The Measurement is based upon the total LF required to replace the existing curb and gutter at the unit price bid. The pay item is one (1) linear foot (LF) of curb and gutter placed.

Misc. Remove and Replace Driveway Culvert Pipe 18". The pay item shall include all the necessary excavation, backfill, labor, materials and equipment to remove and replace the 18" diameter driveway culvert pipe disturbed during the course of construction. Measurement is based upon the total LF required to remove and replace the driveway culvert pipe at the unit price bid. The pay item is one (1) linear foot (LF) of driveway culvert pipe 18" removed and replaced.

Misc. Remove and Replace Conc. Headwall 30". The pay item shall include all the necessary excavation, backfill, labor, materials and equipment to remove and replace existing concrete headwalls on 30" diameter pipe disturbed during the course of construction. Measurement is based upon the total number of each required to remove and replace the headwall at the unit price bid. The pay item is one (1) each (EA) of headwall removed and replaced.

Misc. Remove and Replace 6" Wide Rock Headwall. The pay item shall include all the necessary excavation, backfill, labor, materials and equipment to remove and replace existing hand constructed brink headwalls disturbed during the course of construction. Headwalls are approximately 24 inches high. Measurement is based upon the total LF required to remove and replace the headwall with the same materials at the unit price bid. The pay item is one (1) linear foot (LF) of 6" wide rock headwall removed and replaced.

Misc. Remove and Replace Timber Headwall. The pay item shall include all the necessary excavation, backfill, labor, materials and equipment to remove and replace existing timber headwalls disturbed during the course of construction. Measurement is based upon the total LF required to remove and replace the headwall with the same materials at the unit price bid. The pay item is one (1) linear foot (LF) of 6" wide rock timber headwall removed and replaced.

Misc. Remove and Reset Guardrail. The pay item shall include all the necessary labor, incidental materials and equipment to remove and reset the existing guardrail as indicated in the Contract Drawings disturbed during the course of construction. Measurement is based upon the total LF required to remove and reset the guardrail at the unit price bid. The pay item is one (1) linear foot (LF) of guardrail removed and reset.

Misc. 30" CMP Storm Sewer Pipe. The pay item shall include all the necessary excavation, backfill, labor, materials and equipment to furnish and install 30" CMP pipe as indicated in the Contract Drawings. Measurement is based upon the total LF required to be placed at the unit price bid. The pay item is one (1) linear foot (LF) of 30" CMP Storm Sewer Pipe.

Misc. 30" CMP FES. The unit bid item shall be furnished, constructed, and payment made in accordance with Section 21.08, G, Basis of Payment, in the latest edition of the "*City of Lincoln, Nebraska, Standard Specifications for Municipal Construction*", with the exception that this is CMP pipe.

Misc. Concrete Collar (30"). The unit bid item shall include all necessary excavation, backfill, labor, materials and equipment to construct the collar in accordance with Lincoln Standard Plans LSP 310. Measurement is based upon the steel and concrete stated in LSP 310 to complete one each. The pay item is one (1) each (EA) concrete collar completed.

Misc. 30" x 24" FLG. x PE. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item is one each (EA).

Misc. 24" x 24" FLG. x PE. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item is one each (EA).

Misc. 16" x 24" FLG. x PE. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item is one each (EA).

Misc. 12" x 24" FLG. x PE. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item is one each (EA).

Misc. 8" x 24" FLG. x PE. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item is one each (EA).

Misc. 24" FLG. x MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 16" FLG. x MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. Remove & Salvage 16" Butterfly Valve. The unit bid item shall include all the necessary removal, loading, relocation, labor and appurtenances to remove and salvage the existing valve. Salvaged valves will be re-installed along the project. The pay item is one each (EA).

Misc. Reinstall Salvaged 16" Butterfly Valve. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will use a valve previously salvaged on this project. The pay item is one each (EA).

Misc. Reinstall Salvaged 16" x 6" Tee. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will use a tee previously salvaged on this project. The pay item is one each (EA).

Misc. Remove & Salvage 16" x 6" Tee. The unit bid item shall include all the necessary removal, loading, relocation and labor to remove and salvage the existing tee. Salvaged tees will be returned to the City if not re-installed along the project. The pay item is one each (EA).

Misc. Fill for Watermain (In Place). The pay item shall include all necessary labor, materials and equipment to place and compact earthwork embankment for the water main in the locations designated in the Contract Drawings. Soils used must meet the specified requirements. Measurement is based upon the total CY in place required to construct the fill areas at the unit price bid. The pay item is one (1) cubic yard (CY) of fill in place. Quantity will be determined by pre and post construction survey on the fill areas by the Contractor.

Misc. 24" Butterfly Valve, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item with restraint subsidiary to the price of the valve. The pay item shall include the material costs of the valve and the restraint device and installation for all components. The pay item is one each (EA).

Misc. 16" Butterfly Valve, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will purchase a MJ valve from the City and add restraint subsidiary to the price of the valve. The pay item shall include the cost of the valve purchased from the City and the cost for restraint device and installation of all components. The pay item is one each (EA).

Misc. 12" Butterfly Valve, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will purchase a MJ valve from the City and add restraint subsidiary to the price of the valve. The pay item shall include the cost of the valve purchased from the City and the cost for restraint device and installation of all components. The pay item is one each (EA).

Misc. 16" x 90 Degree Bend, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 16" x 45 Degree Bend, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 24" x 22.5 Degree Bend, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 24" x 11.25 Degree Bend, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 16" x 11.25 Degree Bend, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 24" x 16" Tee, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 24" x 12" Tee, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 16" x 6" Tee, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 16" x 16" Tee, MJ, RJ. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item includes a factory restrained fitting compatible with the pipe supplied and/or restraint device as specified for standard MJ fittings. The pay item is one each (EA).

Misc. 8" Gate Valve. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to install the item. The Contractor will provide the item. The pay item is one each (EA).

Misc. Remove & Salvage 30" CMP Pipe. The unit bid item shall include all the necessary loading, supply, labor, materials and equipment to remove the necessary amount of culvert pipe. The salvaged pipe will be returned to Lancaster County. The Contractor is expected to coordinate with the County for pick-up or delivery. The Contractor will provide the transport of the salvaged pipe to the County. Measurement is based upon the total LF remove and salvaged at the unit price bid. The pay item is one (1) linear foot (LF) of 30" CMP removed and salvaged.



EXHIBIT A

**Shop Drawing Transmittal No. \_\_\_\_\_ - \_\_\_\_\_**  
(Spec Section) (Series)

Project Name:		Date Received:			
Project Owner:		Checked By:			
Contractor:	HDR Engineering, Inc.		Log Page:		
Address:	Address:	HDR No.:			
		Spec Section:			
		Drawing/Detail No.:			
Attn:	Attn:	1st. Sub	ReSub.		
Date Transmitted:		Previous Transmittal Date:			
Item No.	No. Copies	Description	Manufacturer	Mfr/Vendor Dwg or Data No.	Action Taken*
Remarks:					

\* The Action Designated Above is in Accordance with the Following Legend:

A - Furnish as Submitted

D - Rejected

B - Furnish as Noted

E - Engineer's review not required

C - Revise and Submit

1. Not enough information for review.
2. No reproduces submitted.
3. Copies illegible.
4. Not enough copies submitted.
5. Wrong sequence number.
6. Wrong resubmittal number.
7. Wrong spec. section.
8. Wrong form used.
9. See comments.

1. Submittal not required.
2. Supplemental Information. Submittal retained for informational purposes only.
3. Information reviewed and approved on prior submittal.
4. See comments.

Comments:

By \_\_\_\_\_ Date \_\_\_\_\_

Distribution: Contractor ☐ File ☐ Field ☐ Owner ☐ Other ☐

2004/08/20

## SECTION 15061

### PIPE - STEEL

#### PART 1 - GENERAL

##### 1.1 SUMMARY

###### A. Section Includes:

1. Steel pipe, fittings, and appurtenances.

###### B. Related Sections include but are not necessarily limited to:

1. Division 1 - General Requirements.
2. Section 02221 - Trenching, Backfilling and Compacting for Water Main Construction.
3. Section 15060 - Pipe and Pipe Fittings: Basic Requirements.

##### 1.2 QUALITY ASSURANCE

###### A. Referenced Standards:

1. American National Standards Institute (ANSI):
  - a. B1.1, Unified Inch Screw Threads (UN and UNR Thread Form).
  - b. B16.1, Cast Iron Pipe Flanges and Flanged Fittings.
  - c. B16.5, Pipe Flanges and Flanged Fittings.
  - d. B31.1, Power Piping.
  - e. B31.3, Chemical Plant and Petroleum Refinery Piping.
  - f. B31.9, Building Services Piping.
2. American Society of Mechanical Engineers (ASME):
  - a. Section VIII, Construction of Pressure Vessels.
3. ASTM International (ASTM):
  - a. A36, Standard Specification for Carbon Structural Steel.
  - b. A181, Standard Specification for Forgings, Carbon Steel, for General-Purpose Piping.
  - c. A283, Low and Intermediate Tensile Strength Carbon Steel Plates.
  - d. A570, Standard Specification for Steel, Sheet and Strip, Carbon, Hot-Rolled, Structural Quality.
  - e. A572, Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.
  - f. B695, Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel.
4. American Water Works Association (AWWA):
  - a. C200, Steel Water Pipe 6 IN and Larger.
  - b. C203, Coal-Tar Protective Coatings and Linings for Steel water Pipeline - Enamel and Tape - Hot Applied.
  - c. C205, Standard for Cement-Mortar Lining and Coating for Steel Water Pipe 4 IN and Larger Shop Applied.
  - d. C206, Field Welding of Steel Water Pipe.
  - e. C207, Steel Pipe Flanges for Waterworks Service, Sizes 4 IN through 144 IN.
  - f. C208, Dimensions for Fabricated Steel Water Pipe Fittings.
  - g. C209, Cold-Applied Tape Coatings for the Exterior of Special Sections, Connections and Fittings for Steel Water Pipelines.
  - h. C214, Tape Coating Systems for the Exterior of Steel Water Pipelines.
  - i. Manual M11, Steel Pipe - A Guide for Design and Installation.
5. Military Specifications:
  - a. QQ-P-416F, Plating, Cadmium Electro Deposited.

###### B. Qualifications:

1. Application of lining and coating materials including preparation of surfaces, priming, and lining and coating of pipe, fittings, and specials, in shop, repairs of any damage to lining or coating occurring during shipment or any other time, and field lining and coating of ends where linings or coatings have been held back for welded field joints, shall be done by established and recognized pipe company acceptable to Engineer.
2. Use only certified welders meeting procedures and performance outlined in Section 9 of the ASME, Section 3.3.3 of AWWA C200 and other codes and requirements per local building and utility requirements.

### 1.3 SUBMITTALS

#### A. Shop Drawings:

1. See Section 15060.
2. Factory test reports.
3. Coating manufacturer's qualifications.
4. Welder's certificates.

## PART 2 - PRODUCTS

### 2.1 ACCEPTABLE MANUFACTURERS

#### A. Couplings:

1. Smith Blair Style 411
2. Baker Style 200
3. Victaulic Depend-O-Loc
4. or Equal

### 2.2 MATERIALS

- A. All materials used shall meet or exceed pressure test requirements specified for each respective system.

#### B. Steel Pipe (Fabricated Type):

1. AWWA C200:
  - a. ASTM A36, Grade C Steel Plate.
  - b. ASTM A139, Grade C Steel Plate.
  - c. ASTM A283, Grade D Steel Plate.
  - d. ASTM A570, Steel Sheet.
  - e. ASTM A572, Steel Plate.
2. Connector piping may be either longitudinal or spiral welded pipe.

#### C. Flanges (Fabricated Pipe):

1. Flange material: ASTM A283, Grade C or D, ASTM A181 Grade 1.
2. Flange finish: Flat faced.

#### D. Flanges (Mill Type Pipe):

1. AWWA C207.
2. Flat faced.
3. Butt-weld flanges.

#### E. Nuts and Bolts:

1. Buried: Cadmium-plated meeting Military Specification QQ-P-416F, Type 1, Class 2 (Cor-Ten) for buried application.
2. Exposed: Mechanical galvanized ASTM B695, Class 40.
3. Heads and dimensions per ANSI B1.1.
4. Threaded per ANSI B1.1.
5. Project ends 1/4 to 1/2 IN beyond nuts.
6. External coating is required:
  - a. Carboline 300m or equal for connections



1                   b. Wax tape coating for insulating flanges – See Section 13110.

2           F. Gaskets: AWWA C200

3   **2.3 MANUFACTURED UNITS**

4    A. Couplings:

5      1. Flanged adaptors:

- 6          a. Steel or carbon steel body sleeve, flange, followers and Grade 30 rubber gaskets.  
7          b. Provide units equal to those specified in Article 2.1.  
8          c. Flanges meeting standards of adjoining flanges.  
9          d. Entire assembly to be rated for test pressure specified on Piping Schedule for each  
10         respective application.

11     2. Compression sleeve coupling:

- 12          a. Steel sleeve, followers Grade 30 and rubber gaskets.  
13          b. Provide units equal to those specified in Article 2.1.  
14          c. Flanges meeting standards of adjoining flanges.  
15          d. Entire assembly to be rated for test pressure specified on Piping Schedule for each  
16         respective application.  
17          e. Provide field coating for buried couplings per AWWA C203.

18   **2.4 FABRICATION**

19    A. Design pipe system for existing and proposed cover conditions shown on the Drawings, H-20  
20       liveload and a soil weight of 120 LB/SF, whichever controls.

- 21      1. Design pipe system for 125 psi operating pressure and an additional 65 psi surge, test  
22         pressure specified in Section 15060 and the external conditions stated above.  
23      2. Minimum wall thicknesses as follows:  
24          a. 16 IN DIA pipe: 0.1880 IN.  
25          b. 24 IN DIA pipe: 0.1880 IN.  
26          c. 30 IN DIA pipe: 0.2500 IN.  
27      3. Provide piping designed in accordance with AWWA M11 and this Section.  
28          a. The maximum E prime factor shall be 1000.  
29          b. Use a deflection lag factor for design of 1.0.  
30              1) Refer to trench backfill and embedment details on the Contract Drawings and in  
31                 Section 02221 for backfill and embedment requirements.  
32          c. Limit maximum deflection of the pipe under all design conditions to a maximum of 2  
33             percent of the pipe diameter.  
34          d. Provide wall thickness under harness lugs as required by AWWA M11.  
35              1) Pipe outside diameter shall be maintained.  
36              2) The wall thickness required by AWWA M11 shall be hydrostatically tested.  
37          e. Limit design stress to a maximum of 50 percent of minimum yield stress at operating  
38             pressure for the material used.  
39          f. Furnish pipe in 40 to 50 FT laying lengths, except as noted on the Drawings or as  
40             required to meet H.P.I.'s or V.P.I or other control points on the Drawings.

41    B. Ends of Lap Joints for Field Welding:

- 42      1. Bell end shall be formed by pressing on a hydraulic expander or by rolling.  
43          a. If formed by a hydraulic expander, form in such a manner as to stretch the steel beyond  
44             its elastic limit to a bell of suitable diameter and shape.  
45          b. If formed by rolling, the radius of the curvature of the bell shall be at least 15 times the  
46             thickness of the steel shell.  
47      2. Form bell ends in a manner to avoid injurious reduction in shell thickness at any point, or  
48         impairment of the physical properties of any part of the shell.  
49          a. With the exception of bells which are intentionally skewed to permit a change in  
50             alignment, provide the axis of the bell parallel to the axis of the pipe, and the  
51             eccentricity of said axis shall not be greater than 1/8 IN.

3. Grind the longitudinal or spiral weld on the inside of the bell end, and on the outside of the spigot end on each section of pipe, flush with the plate surface.
  - a. Scarify or lightly grind the inside edge of the bell and the outside edge of the spigot end to remove the sharp edges or burrs.
  - b. Permit joints to lap a minimum of 1-1/2 IN when the joint is assembled.
- C. Bell and Spigot Ends with Rubber O-ring Gaskets:
  1. Furnish O-ring joints consisting of a flared bell end and a grooved spigot and designed to retain the O-ring rubber gasket.
  2. Supply a continuous rubber-ring gasket for sealing the pipe joint at the time of pipe installation.
    - a. Provide gasket having sufficient volume to approximately fill the area of the groove.
    - b. Provide the joints suitable for a safe working pressure equal to the class of pipe furnished and capable of operating satisfactorily with deflection (the tangent of which is not to exceed 0.75 IN/D where D is the outside diameter of the pipe in inches) or with a pull-out of 3/4 IN.
    - c. Electrically bond O-ring joint using wire and brazing cartridges furnished by the pipe fabricator.
- D. Tolerances at Ends:
  1. For lap joint pipe for field welding, the clearance between the outside circumference of the spigot end and the inside circumference of the bell end shall not be less than 0.09 IN, nor more than 0.41 IN.
  2. For bell-and-spigot ends with rubber gaskets, the difference in circumferential measurement between the outside of the spigot end and the inside of the bell shall be no more than 0.100 IN.
    - a. The measurements shall be taken at the points on the bell-and-spigot which have the least clearance following normal joint assembly.
- E. Fabrication of Specials and Fittings:
  1. Special sections may be fabricated from tested pipe, provided that the pipe meets the requirements of AWWA C200.
    - a. Special sections that are not fabricated from pipe may be made from any of the plate or sheet types in Paragraph 2.2B of this Section and in accordance with Section 3 of AWWA C200, but must be comparable in strength to the pipe material.
  2. Elbows:
    - a. 0 to 22-1/2 degrees shall be two-piece.
    - b. 23 to 45 degrees shall be three-piece.
    - c. 46 to 67-1/2 degrees shall be four-piece.
    - d. 68 to 90 degrees shall be five piece.
    - e. Elbows shall be fabricated with a radius of 1-1/2 times the nominal diameter.
    - f. The minimum center of the bend to end dimension shall be 8 FT.
  3. Tees and outlets:
    - a. All tees, laterals and outlets shall be reinforced in accordance with ASME Pressure Vessel Code, Section VIII, Paragraph G37, or AWWA M11.
  4. Flanges:
    - a. Steel-to-steel connections:
      - 1) Furnish flanges in accordance with AWWA C207, Class E, Table 5 for pressures to 275 psi.
    - b. Steel-to-cast-iron valves or fittings:
      - 1) Furnish steel flanges in accordance with AWWA C207, Class E, Table 5 for pressures to 275 psi.
      - 2) All drilling dimensions shall match ANSI B16.1 for Class 125 flat-faced flanges.

## 2.5 MARKING PIPE

- A. The marking system on the individual pipe and fitting shall correspond to the marking designations on the laying schedules.

- 1 1. The mark numbers shall be clearly marked on the inside and outside of the pipe.
- 2 2. Furnish material used for marking inside of pipe suitable for contact with potable water.

## 3 **2.6 PIPE COATING AND LINING**

- 4 A. Furnish pipe coating in accordance with AWWA C214, except that minimum thickness shall be
- 5 80 mils.
- 6 B. Wrap all joints in accordance with AWWA C209 or AWWA C212.
- 7 1. Clean joints, prime (bare steel only) and wrap with two wraps of tape with a 35 mil
- 8 thickness each.
- 9 2. The material for field wrap shall be supplied by the pipe supplier.
- 10 C. Furnish material for field wrap compatible with the pipe coating.
- 11 D. Follow the manufacturer's recommendations for application of field wrap during cold weather.
- 12 E. Furnish pipe lining in accordance with AWWA C205.
- 13 F. Follow the manufacturer's recommendations for field application at welded joints.

## 14 **2.7 RESTRAINED JOINT FOR STEEL PIPE**

- 15 A. Lap weld restrained joints where shown on the Contract Drawings, except where buttstrap joints
- 16 are specifically called for.
- 17 B. Design restrained joints to withstand the thrust on the joints, fittings or bends without the use of
- 18 thrust blocks.
- 19 1. Restrained joints shall be capable of withstanding both tension and compressive loads.
- 20 2. Furnish the length of restrained piping required for each fitting or bend as determined in
- 21 accordance with AWWA C208 and AWWA M11.
- 22 3. Weld lap joints from the inside or outside with a full fillet weld.

## 23 **2.8 HANDLING, STORAGE AND SHIPPING**

- 24 A. Handle, store, and ship coated pipe in a manner that will prevent damage to the coating.
- 25 1. Handle with side belt slings or rubber padded forklifts.
- 26 2. Use of chains, cables, or other equipment likely to cause damage to the pipe or coating is
- 27 not allowed.
- 28 B. Support at proper intervals when lifted, so that excessive deflection does not take place and
- 29 crack the cement mortar lining.
- 30 1. Pipe deflection shall not exceed 1 percent of the diameter.
- 31 C. Prior to shipment, inspect pipe for damage to the coating. Acceptance will be made on the basis
- 32 of the manufacturers' certified test reports completed by a commercial laboratory.
- 33 1. Visual inspection.
- 34 2. Per AWWA C214
- 35 3. Electrical continuity inspection.
- 36 4. Adhesion.
- 37 D. If pipe inspection shows damaged areas, repair in accordance with AWWA C214.
- 38 E. Transport pipe from the coating plant to the point of delivery on padded bunks with nylon tie-
- 39 down straps or padded banding to adequately protect the pipe and coating.

## 40 **2.9 SOURCE QUALITY CONTROL**

- 41 A. Testing:
- 42 1. Shop test fabricated steel pipe and fittings.
- 43 2. Field test all pipe in accordance with Section 15060.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION**

A. Install products in accordance with manufacturer's instructions.

B. Joining Methods - Flanges:

1. Facing method:

- a. Insert slip-on flange on pipe.
- b. Assure maximum tolerances for flange faces from normal with respect to axis of pipe is 0.005 IN per foot of flange diameter.
- c. Test flanges after welding to pipe for true to face condition and reface, if necessary, to bring to specified tolerance.

2. Joining method:

- a. Leave 1/8 to 3/8 IN of flange bolts projecting beyond face of nut after tightening.
- b. Coordinate dimensions and drillings of flanges with flanges for valves, pumps, equipment, tank, and other interconnecting piping systems.
- c. When bolting flange joints, exercise extreme care to assure that there is no restraint on opposite end of pipe or fitting which would prevent uniform gasket compression or cause unnecessary stress, bending or torsional strains being applied to cast flanges or flanged fittings. Allow one flange free movement in any direction while bolts are being tightened.
- d. Do not assemble adjoining flexible coupled, mechanical coupled or welded joints until flanged joints in piping system have been tightened.
- e. Gradually tighten flange bolts uniformly to permit even gasket compression.
- f. Do not overstress bolts to compensate for poor installation.

C. Joining Method - Welded Joints:

1. Perform welding in accordance with AWWA C206 and this Section.
2. For flange attachment, perform in accordance with AWWA C207.
3. Have each welding operator affix an assigned symbol to all his welds.
  - a. Mark each longitudinal joint at the extent of each operator's welding.
  - b. Mark each circumferential joint, nozzle, or other weld into places 180 degrees apart.
4. Welding for all process piping shall conform with ANSI B31.3.
5. Provide caps, tees, elbows, reducers, etc. manufactured for welded applications.
6. Weldolets may be used for 5 IN and larger pipe provided all slag is removed from inside the pipe.
7. Weld-in nozzles may be used for branch connections to mains and where approved by Engineer.
8. Use all long radius welding elbows for expansion loops and bends.
9. Use long radius reducing welding elbows where size changes are required.

D. Joining Method - Couplings:

1. Compression sleeve:

- a. Install coupling to allow space of not less than 1/4 IN but not more than 1 IN.
- b. Provide harnessed joint.
  - 1) Use joint harness arrangements detailed in AWWA M11.
- c. Design harness assembly with adequate number of tie rods for test pressures indicated in Section 15060 and allow for expansion of pipe.
- d. Provide ends to be joined or fitted with compression sleeve couplings of the plain end type.
- e. Grind smooth welds the length of one coupling on either side of joint to be fitted with any coupling.
- f. Assure that outside diameter and out-of-round tolerances are within limits required by coupling manufacturer.

E. Install buried piping per Section 15060.

1

2

3

Pen: \\nabes\pen\SW\_PENTABLE\bl  
User: JMS  
Date: 11/07/05  
DGN: 117-C-46



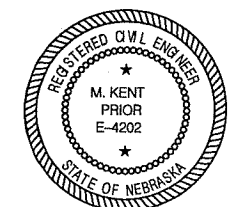
ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT
0.2000	Const. Staking	1	LS
01.0210	Type 4AD Sawing	264	LF
10.0010	Crushed Rock Surfacing (In Place)	300	TON
10.0020	Gravel Surfacing (In Place)	182	TON
21.0200	30D RCP Storm Sewer, Class IV	12	LF
21.0230	18D RCP Storm Sewer, Class IV	20	LF
21.1280	Remove 30D Storm Sewer Pipe	32	LF
21.1310	Remove 18D Storm Sewer Pipe	20	LF
21.1540	Remove & Reset 18D RC FES	1	EA
21.2111	Rip-Rap (In Place)	28	TON
20.0192	Boring for 30D Water Main	65	LF
20.0193	Boring for 24D Water Main	264	LF
20.0194	Boring for 16D Water Main	396	LF
23.0622	16D x 6D Reducer, MJ	2	EA
23.0646	16D Solid Sleeve (L=45D), MJ	2	EA
23.0644	24D Solid Sleeve (L=45D), MJ	1	EA
23.0692	6" Anchoring Elbow, MJ	1	EA
23.0665	Concrete for Thrust Blocks & Anchorages	19	CY
23.0670	Reinf. Stl for Thrust Blocks & Anchorages	1,010	LBS
23.0970	Remove & Salvage Plug	3	EA
23.1010	Remove & Salvage Reducer	1	EA
23.1030	Remove & Reset Hydrant (Complete)	2	EA
23.1110	Remove Plug	1	EA
50.0015	Misc. Corrosion Protection	1	LS
50.0040	Remove & Replace 9D Conc. Pvmt. (L3500)	40	SY
50.0040	Misc Asphalt Drive	86	SY
50.0001	Misc 30D Solid Sleeve (L=45D), MJ	1	EA
50.0001	Misc 30D x 12D Cross, MJ, RJ	1	EA
50.0001	Misc 30D x 8D Tee, MJ, RJ	1	EA
50.0001	Misc 30D x 22.5 Degree Bend, MJ, RJ	2	EA
50.0001	Misc 30D x 11.25 Degree Bend, MJ, RJ	1	EA
50.0001	Misc 30D x 24D Eccentric Reducer, FLG	1	EA
50.0001	Misc 16D Insulating Joint	5	EA
50.0001	Misc 24D Insulating Joint	1	EA
50.0001	Misc 30D Insulating Joint	1	EA
50.0001	Misc 8D Insulating Joint w/ Blind Flange	1	EA
50.0001	Misc 12D Insulating Joint w/ Blind Flange	4	EA
50.0001	Misc 16D Insulating Joint w/ Blind Flange	1	EA
50.0001	Misc Manual Air Relief Valve	1	EA
50.0001	Misc Blow off Structure	4	EA
50.0001	Misc Air Relief Valve/Vault	3	EA
50.0005	Misc 16D Water Main	2,760	LF
50.0005	Misc 24D Water Main	7,596	LF
50.0005	Misc 30D Water Main	2,594	LF
50.0001	Misc 16" Joint Restraint	6	EA
50.0005	Misc Water Main in Boring 16D	396	LF
50.0005	Misc Water Main in Boring 24D	264	LF
50.0005	Misc Water Main in Boring 30D	65	LF



ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT
50.0015	Misc Traffic Control	1	LS
50.0015	Misc Mobilization/Demobilization	1	LS
50.0015	Misc Clearing, Grubbing, and Tree Removal	1	LS
50.0015	Misc Tree Removal (Defined Area)	1	LS
50.0020	Misc Seeding and Mulching	5	AC
50.0040	Misc Turf Reinforcement Mat	4,505	SY
50.0015	Misc Erosion and Sediment Control	1	LS
50.0005	Misc Remove Fence	175	LF
50.0001	Misc Remove & Reset Mailbox	10	EA
50.0040	Misc Remove & Replace Asphalt Surfacing	75	SY
50.0040	Misc Remove Driveway Surfacing	86	SY
50.0005	Misc Remove & Replace Curb & Gutter	20	LF
50.0005	Misc Remove & Rep. Driveway Culvert Pipe 18"	294	LF
50.0001	Misc Remove & Replace Conc. Headwall 30"	3	EA
50.0005	Misc Remove & Replace 6" Wide Rock Headwall	40	LF
50.0005	Misc Remove & Reset Timber Headwall	15	LF
50.0005	Misc Remove & Reset Guardrail	120	LF
51.0005	Misc 30" CMP Storm Sewer Pipe	152	LF
50.0001	Misc 30" CMP FES	1	EA
50.0001	Concrete Collar (30")	2	EA
50.0001	Misc 30" x 24" FLG x PE	3	EA
50.0001	Misc 24" x 24" FLG x PE	1	EA
50.0001	Misc 16" x 24" FLG x PE	8	EA
50.0001	Misc 12" x 24" FLG x PE	4	EA
50.0001	Misc 8" x 24" FLG x PE	1	EA
50.0001	Misc 24" FLG x MJ, RJ	2	EA
50.0001	Misc 16" FLG x MJ, RJ	3	EA
50.0001	Misc Remove & Salvage 16" Butterfly Valve	2	EA
50.0001	Misc Re-install Salvaged 16" Butterfly Valve	2	EA
50.0001	Misc Re-install Salvaged 16" x 16" Tee	1	EA
50.0001	Misc Remove & Salvage 16" x 16" Tee	1	EA
50.0010	Misc Fill for Watermain (In Place)	4,770	CY
50.0001	Misc 24" Butterfly Valve MJ, RJ	2	EA
50.0001	Misc 16" Butterfly Valve MJ, RJ	5	EA
50.0001	Misc 12" Butterfly Valve MJ, RJ	4	EA
50.0001	Misc 16" x 90 Degree Bend, MJ, RJ	1	EA
50.0001	Misc 16" x 45 Degree Bend, MJ, RJ	2	EA
50.0001	Misc 24" x 22.5 Degree Bend, MJ, RJ	3	EA
50.0001	Misc 24" x 11.25 Degree Bend, MJ, RJ	1	EA
50.0001	Misc 16" x 11.25 Degree Bend, MJ, RJ	2	EA
50.0001	Misc 24" x 16" Tee, MJ, RJ	3	EA
50.0001	Misc 24" x 12" Tee, MJ, RJ	2	EA
50.0001	Misc 16" x 6" Tee, MJ, RJ	1	EA
50.0001	Misc 16" x 16" Tee, MJ, RJ	2	EA
50.0001	Misc 8" Gate Valve	1	EA
50.0005	Misc Remove & Salvage 30" CMP Pipe	25	LF



PROJECT NO.	SHEET NO.
803202-803203-803204	2
Date: 10/11/05	Drawn: JDS
NO SCALE	Checked: EWC
Addendum 1	Approved: MKP
	11/07/05



SUMMARY OF QUANTITIES

**City of Lincoln, Nebraska, 2005  
Water Distribution Mains  
Project Nos. 803-202, 803-203, 803-204  
Specification No. 05-258**

**PREBID CONFERENCE**

**MINUTES  
November 1, 2005**

The following agenda follows along with the visual presentation.

1. PROJECT TEAM
  - a. Owner – City of Lincoln
    - i. Lincoln Water System
    - ii. Engineering Services
  - b. Design Team
    - i. HDR
    - ii. JEO Consulting – Survey, Legal Descriptions
    - iii. HWS Consulting - Geotechnical
2. PROJECT OVERVIEW
  - a. Project Nos. 803-202, 803-203, 803-204
  - b. 16", 24" and 30" Water line installation
  - c. Blow off and Air relief structures
  - d. Connections to existing water lines
  - e. Removal and replacement of drives as required for water line installation
  - f. Related appurtenances
  - g. Seeding and erosion control
  - h. Traffic control
  - i. Corrosion protection
  - j. Boring under existing roadways
3. BID OPENING DATE AND TIME
  - a. Wednesday, November 9, 2005 at 12:00 Noon. See Notice to Bidders and Instructions to Bidders for submittal requirements.
4. PROPOSAL:
  - a. Use form in Contract Documents and Specifications.
  - b. All Work is Unit Price. Items not covered by unit price items are subsidiary to unit prices stated.
  - c. Attach: Bid Bond
5. BASIS OF AWARD:
  - a. Award to lowest, responsive, responsible bid as noted in Article II.
6. INTERPRETATIONS:
  - a. One addendum will be issued. (Reviewed later)

- b. Only addenda can modify documents.
  - c. Questions subsequent to this meeting must be received in writing by 12:00 Noon, Friday, November 4, 2005.
  - d. Minutes of this Prebid Conference are **NOT** part of the Contract Documents and will be published for information purposes only.
  - e. All requests for interpretations should be directed to Mary Long, City of Lincoln, Purchasing Department.
7. SUBCONTRACTS:
- a. Successful Bidder-Contractor must submit names of Subcontractors.
  - b. The City has the right to approve or disapprove any Subcontractors.
8. PERFORMANCE AND PAYMENT BONDS:
- a. Furnish on forms provided.
  - b. No substitute forms will be accepted.
9. SHOP DRAWING LIST AND SCHEDULE (See Section 01340):
- a. Submittal drawings & schedule to be submitted in accordance with the General Provisions and Section 01340.
  - b. Shop drawing submittals will include the Shop Drawing Submittal form included in Addendum 1 of the Contract Documents.
10. PRECONSTRUCTION CONFERENCE:
- a. To be scheduled after Award and prior to starting work.
  - b. Contractor's Project Superintendent, Principal Subcontractors and safety manager are required to attend.
11. LIQUIDATED DAMAGES
- a. \$1,000 per day for substantial completion
  - b. \$500 per day for final completion
  - c. Liquidated Damages will apply to interim completion dates
12. PAYMENTS:
- a. Monthly Progress Payments.
  - b. Five (5) Percent Retainage per General Provisions.
- DISCUSSION OF GENERAL PROVISION ITEMS:
- a. Bid Date: Discussion following the pre-bid meeting has resulted in a re-scheduling of the bid date. See Addendum No. 1 for particulars.
  - b. Proposal: Use forms in Addendum if revised.
13. OVERVIEW OF ALIGNMENTS
- a. Visual presentation of alignment that matches the plan documents.

DISCUSSION

None



14. CONTRACTOR INVESTIGATION & DOCUMENTATION

- a. Section 01060 – Project Requirements
  - i. Paragraph 1.7 – Responsibility for Materials & Equipment
  - ii. Paragraph 1.9 – On Site Storage is located at N 1st & Fletcher
  - iii. Paragraph 1.11 - Operation of Existing Facilities
  - iv. Paragraph 1.13 – Connections to Existing Water Mains
  - v. Paragraph 1.14 – Status of Easements/ROW
  - vi. Paragraph 1.15 - Traffic Control
  - vii. Paragraph 1.16 – Utility Work: Investigate/verify location of all existing utilities prior to beginning work
  - viii. Paragraph 1.25 – SWPPP

DISCUSSION:

None

15. EASEMENT & ACCESS

- a. No easement required along NW 13<sup>th</sup>
- b. Easement required at Fallbrook Blvd.
- c. Existing County/City ROW along Fletcher Ave.
- d. Easements are NOT yet acquired
  - i. Contractor can not claim delay: See Section 01060.1.14
  - ii. The potential exists for the need to shut down and a second start.
- e. Contractor may work in an area without easements if the work can be completed on existing ROW without easements.
- f. Easements are needed in some areas for maintenance purposes and are not necessarily needed for construction.

DISCUSSION:

- a. Clarification was requested on being assessed liquidated damages by the City in the event that the City does not acquire Easements until after the substantial completion date. It was clarified by the City that they could not assess liquidated damages if it is for lack of easements that has prevented the Contractor from completion of the work. Section 01060.1.14 determines that the Contractor can not make monetary claim for the delay due to the easements not being acquired.

16. TRAFFIC CONTROL

- a. Section 01060, Paragraph 1.15 and Paragraph 1.1.G.3
- b. Traffic Control plan required
  - i. Identify construction phasing
  - ii. Identify any detour routes
- c. Special requirements for NDOR
- d. Follow MUTCD standards
- e. 24 hour availability of traffic control supervisor
- f. Fletcher may be closed to through traffic.
  - i. Access must remain open to all property owners
  - ii. Access must be maintained to the tree farm

DISCUSSION:

- a. The City mentioned that the Contractor will not be allowed to place Asphalt prior to April 1 and will need to use temporary surfacing to maintain access to all properties where asphalt has been removed. The quantity for Crushed Rock Surfacing (In Place) will be increased to account for providing temporary surfacing in these locations.

17. UTILITY COORDINATION

- a. Alltel – Station 366+00 to 379+00. Relocation of buried telephone. Expected completion Mid-January 2006.
- b. Alltel – Station 400+00 to 403+00. Relocation of overhead telephone. Expected completion Mid-January 2006.
- c. LES – Station 366+65. Relocation of pole. No completion date determined.

DISCUSSION

- a. Alltel has requested their anticipated completion date be moved to the end of January.

18. CONSTRUCTION SCHEDULE:

- a. Due 10 days after Award (Section 01060, 1.1).
- b. Follow requirements of the City's General Provisions.
- c. Order of Construction is to be identified as part of the construction schedule to verify completion of intermediate substantial completion dates.

DISCUSSION:

None

19. TIME OF COMPLETION:

- a. Overall project substantial completion is scheduled for May 15, 2006.
- b. Final completion is scheduled for June 15, 2006.
- c. There are two interim dates for substantial completion on portions of this project. These are necessary to meet agreements on other projects.
- d. Sta. 341+75 to 353+75 and Sta. 500+00 to 502+19 shall be substantially complete by March 1, 2006.
- e. Sta. 200+00 and Sta. 300+00, the connection to the existing water lines shall be complete by April 1, 2005.
- f. Liquidated Damages shall apply to the interim substantial completion dates of March 1 and April 1, 2006.

DISCUSSION:

- a. The Contractors expressed concern over the schedule and the ability to get the required pipe soon enough to meet the internal deadlines.
- b. Discussion following the pre-bid meeting concluded that the schedule would be modified by addendum.

20. CONSTRUCTION TECHNIQUES

- a. Open cut for most of the project.
- b. Boring required at six (6) locations.
- c. Restrained Joints at all valves, tees and through all borings as noted on the plans.
- d. Isolation joints at all connections to existing piping.

21. SURVEYING

- a. Contractor is responsible for construction staking along the project.
- b. City will perform measurements for unit price payments. Note definitions of unit price measurement.

22. SOIL/GEOTECHNICAL INFORMATION:

- a. There is site-specific geotechnical information available for the project location.
- b. It is Bidders responsibility to obtain any supplemental data necessary for submittal of Bid.
- c. Contact City of Lincoln to request a copy of the Geotechnical report completed for this project.

DISCUSSION:

- a. Megalug or equal can be used on this project.

23. MATERIALS

- a. DIP (Shop applied external coating)
- b. PCCP (Shop applied external coating)
- c. 16", 24", and 30" may be DIP or PCCP per Addendum 1 & 2.
- d. Valves 16" and smaller will be purchased from the City per Addendum 1 & 2.

24. SUBSTITUTIONS:

- a. Substitutions considered after the bid in accordance with Section 01640.
- b. Substitutions that are not "Or-Equals" must provide cost reduction incentive to the City.

25. CORROSION PROTECTION

- a. Will be required on both pipe materials
- b. Anodes and test stations will be required per contract documents
- c. All joints will be bonded (2 wires per bond)
- d. See Section 13110
- e. Contractor will be responsible for system certification

26. TESTING:

- a. ~~Contractor is responsible for all soils/bedding density testing.~~
- b. Contractor is responsible for all testing necessary for flushing and testing.
- c. Contractor is responsible for all testing necessary for corrosion protection.
- d. Contractor to provide passing test results to the City for documentation.

DISCUSSION:

- a. The Contractors requested verification that they are to complete any compaction testing. "26.a." above should be stricken from the minutes. Per Section 02200, 3.4 and Section 02221, 3.7.A, soils/compaction testing will be completed by the City.
  - b. The Contractor requested clarification as to whether the City will provide chlorination for flushing and testing. The Contractor is responsible for all aspects of flushing, testing, chlorination and de-chlorination. See Section 15060, 3.4 & 3.5. for the applicable standards and procedure to be used.
  - c. The Contractor requested clarification as to whether the Contractor is required to test the corrosion protection system. The Contractor is responsible for system quality control during installation, check-out and testing. See Section 13110.
27. PERMITS & FEES:
- a. City has NPDES (Stormwater) Permit for the Site.
  - b. Contractor is responsible for submitting the SWPPP plan as part of the NOI.
  - c. City has submitted information to NDOR and Lancaster County for permits to work within ROW.
  - d. Contractor responsible for all other permits, fees and utilities.

DISCUSSION:

None

28. ADDENDUM #1
- a. Sheet 8 - Benchmark elevation at Fletcher and Hwy 34: Chiseled Square = 1267.67. It should read Chiseled Square = 1267.81
  - b. Sheet 22 – Additional quantity. Remove and Replace Concrete Headwall, Sta. 372+55, 1 Each
  - c. Sheet 23 – Concrete collar should be 15' Rt. Rather than 15' Lt.
  - d. Sheet 23 – Additional New Quantity. Remove & Salvage Pipe. Salvage to County, 25 LF of 30" CMP.
  - e. Insert the Unit price definitions into the City's Special Provision after Liquidated Damages.
  - f. Delete Section 00805 in its entirety.
  - g. Delete Section 01015 in its entirety.
  - h. Section 01340 – Add shop drawing transmittal form to the end of the section.
  - i. Section 15060, 1.3.B.3 - Submit certified copies of mill test reports for bolts and nuts, including coatings if specified. Provide recertification by an independent domestic testing laboratory for materials originating outside of the United States.
  - j. Section 15060, 1.7.B.1 – Delete 1. Contractor shall purchase valves 16" and smaller from the City.
  - k. Section 15060, 2.1.B.2 – delete a. All other pipe shall be ductile iron pipe unless otherwise indicated, 16" pipe may be DIP or PCCP.
  - l. Section 15062, 2.4.B.1 – 16 mm should be deleted. 16 mils should be inserted in its place.

DISCUSSION:

None

29. TOPICS FROM THE FLOOR:

- a. Frost – Q: What shall be done with frozen soils excavated during winter construction?  
A: As there are no additional requirements in the Special Provisions regarding frost, the requirements of the City Specification determine what is done with frost.
- b. Restrained Joint Valve – Q: Can the Contractor use megalugs? A: Yes
- c. Restrained Joint Valve – Q: Can the Contractor use retainer glands on valves? A: No as will not perform the required function.
- d. Restraints – Q: When can megalugs be used? A: Clarification will be provided by Addendum.
- e. Pipe Supply – Q: What is the expected turn around for pipe suppliers? A: 10-12 weeks (Answer provided by DIP and PCCP pipe suppliers).
- f. Q: How can the Contractor meet a March 1 deadline if they can not get pipe until after that date? A: Discussion following the pre-bid meeting concluded that the schedule would be modified by addendum.
- g. Pipe Materials – Q: Will you consider other materials for the valves, fittings? A: HDR will review. Any changes allowed will be listed in Addendum 1.
- h. Pipe Materials – Q: What about using plastic pipe? A: Plastic pipe is not an option by City decision.
- i. Schedule – Q: This schedule seems impossible. Can the schedule be shifted? A: The City and HDR will review. Any changes to the schedule will be listed in Addendum 1.
- j. Pipe materials - Q: Do we have to use all of these plain end connections? A: (This was originally answered incorrectly at the meeting with a no response.) The correct answer is yes they must be used in order to facilitate installation of insulating flange kits which are required for the overall corrosion protection system.
- k. Corrosion Protection – Q: Is the Contractor responsible for corrosion system design? A: No, the number of anodes and their placement locations have been pre-determined. The Contractor is responsible for installation of the system and verification as specified in Section 13110.

**City of Lincoln, Nebraska, 2005  
Water Distribution Mains  
Project Nos. 803202, 803203, 803204  
Pre-Bid Meeting**



Presented by  
Gretchen Dolson, P.E.  
November 1, 2005

**HDR** ONE COMPANY *Many Solutions™*

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**Pre-Bid Meeting Agenda**

- Introduction of Project Team
- Overview of Project
- General Provisions
- Overview of Alignment
- Easement & Access
- Schedule
- Construction Techniques
- Materials
- Permits Obtained by Owner
- Addendum #1

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**Introduction of Project Team**

- Owner:
  - City of Lincoln, Nebraska
  - Lincoln Water System & Engineering Services
- Design Team:
  - HDR
  - JEO Consulting - Surveyor, Legal Descriptions
  - HWS Consulting - Geotechnical

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**Overview of Project**

- 16-inch diameter water (approx. 3,156 LF)
- 24-inch diameter water (approx. 7,860 LF)
- 30-inch diameter water (approx. 2,659 LF)
- Cathodic Protection Required
- Structures-
  - Air Relief Structures
  - Blow off Structures

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**Overview of Project**

- Connect to existing Water lines
  - NW 13<sup>th</sup>
  - NW 12<sup>th</sup>
  - NW 2<sup>nd</sup>
  - N 14<sup>th</sup>
- Boring Locations
  - 16" under Hwy 34 (NW 13<sup>th</sup> & NW 2<sup>nd</sup>)
  - 16" & 24" under Fallbrook (Separate locations)
  - 24" under N 1<sup>st</sup> Street
  - 30" under N 14<sup>th</sup> Street

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**Proposal/Contract Documents**

- Bid Opening November 9, 2005
  - 5% Bid Bond
- Proposal based upon:
  - 1999 City of Lincoln Specifications for Municipal Construction and as modified by the 2004 Supplemental Specs.
  - Plans
  - NDOR
- Interpretations
- Misc. items:
  - Subcontractors, Performance & Payment Bonds, Shop Drawings, Preconstruction Conference

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### Bid Form/Payment

- Unit Price Bid
- Liquidated damages
  - \$1,000/day Substantial Completion
  - \$500/day Final Completion
  - LDs will apply to Interim Substantial Completion Dates of March 1 and April 1, 2006
- Payment
  - Monthly
  - 5% Retainage per General Provisions

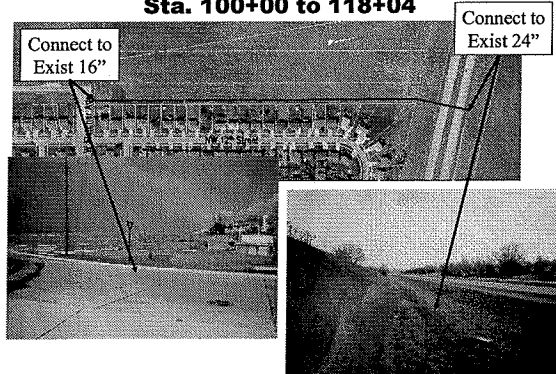
7

### Overview of Alignment Sta. 100+00 to 118+04

- Belmont Booster District
- Connect with existing 16" DIP at south end, Sta. 100+00.
- Remove & Replace concrete as needed to tie into the existing water line. Restrain joints.
- Relocate fire hydrant
- Manual air relief valve Sta. 104+45
- Boring under Hwy 34
- Connect to existing 24" DIP at north end, Sta. 118+04.

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### Sta. 100+00 to 118+04

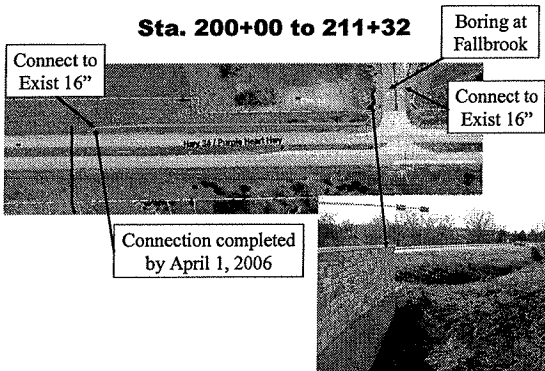


### Overview of Alignment Sta. 200+00 to 211+32

- Northwest Booster District
- Connect with existing 16" DIP at west end, Sta. 200+00.
- Coordinate installation with the new parallel 24" water line. Existing water service shall be shut down 72 hours maximum.
- Boring under Fallbrook Blvd.
- Connect to existing 16" DIP at east end, Sta. 211+32.
- Relocate fire hydrant.

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### Sta. 200+00 to 211+32



### Overview of Alignment Sta. 300+00 to 341+75

- Belmont Booster District
- Connect with existing 24" DIP at west end, Sta. 300+00
- Coordinate installation with the new parallel 16" water line. Existing water service shall be shut down 72 hours maximum
- Boring under Fallbrook Blvd.
- New 24" butterfly valve for construction sequencing, Sta. 341+75
- New 16" DIP ties into water line Sta. 341+79

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**Sta. 300+00 to 341+75**

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**Overview of Alignment  
Sta. 341+75 to 403+75**

- Belmont Booster District
- Continuation of new 24" DIP through boring Sta. 341+75
- New tees/valves at N 1<sup>st</sup>, N 2<sup>nd</sup> and N 9<sup>th</sup> for future development
- Borings under N 1<sup>st</sup> and N 14<sup>th</sup> Streets
- Eccentric reducer to transition between 24" and 30"
- New 30" x 12" cross at N 7<sup>th</sup> for future development
- New 30" DIP ties into water line Sta. 403+75

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**Overview of Alignment  
Sta. 341+75+403+75**

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**Contractor Investigation & Documentation**

- Section 01060 – Project Requirements
  - Paragraph 1.7 – Responsibility for Materials & Equipment
  - Paragraph 1.9 – On Site Storage is located at N 1<sup>st</sup> & Fletcher
  - Paragraph 1.11 - Operation of Existing Facilities
  - Paragraph 1.13 – Connections to Existing Water Mains
  - Paragraph 1.14 – Status of Easements & Right of Way
  - Paragraph 1.15 - Traffic Control
  - Paragraph 1.16 – Utility Work: Investigate/verify location of all existing utilities prior to beginning work
  - Paragraph 1.25 - SWPPP

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**Easement and Access**

- No easements required along NW 13<sup>th</sup>
- Easement required at Fallbrook
- Existing County right of way along Fletcher Ave.
- Easements are NOT yet acquired
  - Contractor can not claim delay: See Section 01060, 1
  - Potential for shut down and second start
- New easements required along Fletcher
  - Contractor can work in area without easements if work can be completed on existing ROW.
- Section 01060, 1.14

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**Traffic Control**

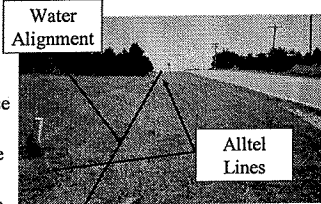
- Section 01060, Paragraph 1.15 and Paragraph 1.1.G.3
- Traffic Control plan required
  - Identify construction phasing
  - Identify any detour routes
- Special requirements for NDOR
- Follow MUTCD standards
- 24 hour availability of traffic control supervisor
- Fletcher may be closed to through traffic.
  - Access must remain open to all property owners
  - Access must be maintained to the tree farm
  - New development on the south side of Fletcher -N 1<sup>st</sup> and N 14<sup>th</sup>.

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### Utility Coordination

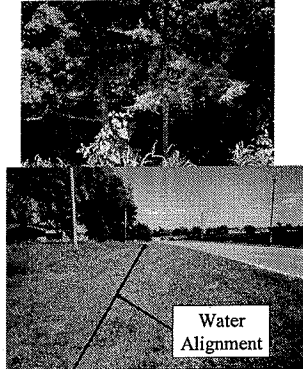
- Alltel will excavate & relocate underground line near Sta. 366+00 through Sta. 379+00 prior to Contractor working in these areas.
- Contractor shall coordinate with Alltel for relocation
- Relocation is anticipated to be complete Mid-January 2006.



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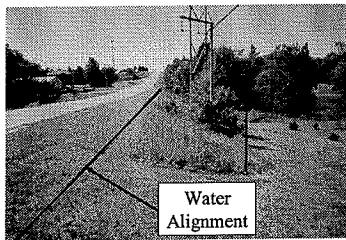
### Utility Coordination

- Alltel will relocate overhead lines near Sta. 400+00 through Sta. 403+00 prior to Contractor working in these areas.
- Relocation should be completed prior to Contractor completing the Lump Sum clearing & grubbing.
- Contractor shall coordinate with Alltel for relocation
- Relocation is anticipated to be complete Mid-January 2006.



### Utility Coordination

- Shield high voltage wires as needed.
- Coordinate with LES
- LES will relocate one service pole Sta. 366+65



### Schedule

- November 4, 2005 – Last day for questions
- November 7, 2005 – Last day for Addendums
- November 9, 2005 – Bids received and opened
- March 1, 2006 – Substantial Completion of Work between NW 2<sup>nd</sup> and N 2<sup>nd</sup> (Liquidated Damages apply)
- April 1, 2006 – Substantial Completion of connection at NW 12<sup>th</sup> & HWY 34 (Liquidated Damages apply)
- May 15, 2006 – Substantial Completion
- June 15, 2006 – Final Completion

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### Construction Techniques

- Open-cut trenching for most of the project.
- Boring required at six(6) locations.
- Restrained joints at all valves, tees, bends and through all borings.
- Isolation joints on all connections to existing piping.
- Surveying
- Soils/Geotechnical information

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### Materials

- Water Line 16"
  - DIP (Shop applied external coating)
  - PCCP (Shop applied external coating) – Addendum #1
- Water Line 24" and 30"
  - DIP (Shop applied external coating)
  - PCCP (Shop applied external coating)
- Valves
  - 16" and smaller purchased from the City – Addendum #1
  - Larger than 16" furnished by Contractor
  - DIP
- Substitutions per Section 01640

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**Corrosion Protection**

- Required for both pipe materials
- External coating
- Anodes
- Test Stations
- Bonded joints
- Holiday testing of the pipe
- Contractor to certify installation and proper functioning of the system
- See section 13110

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**Testing**

- Soils/Bedding Compaction
  - Contractor is responsible for all testing
  - Provide the City with passing test results
- Flushing & Disinfection
  - Contractor shall complete all flushing and disinfection
  - Provide the City with passing test results
- Corrosion Protection
  - Contractor to certify installation and proper functioning of the system

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**Permits to be Obtained by Owner**

- NDOR (Highway 34) Permit to occupy ROW
- Lancaster County Permit to occupy ROW
- NPDES Construction Site Stormwater Discharge Permit (NOI Permit)
  - Contractor has to complete and submit SWPPP for NOI Permit
  - See Section 01060

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**Addendum #1**

- Sheet 8 - Benchmark elevation at Fletcher and Hwy 34: Chiseled Square = 1267.67. It should read Chiseled Square = 1267.81
- Sheet 22 – Additional quantity. Remove and Replace Concrete Headwall, Sta. 372+55, 1 Each
- Sheet 23 – Concrete collar should be 15' Rt. Rather than 15' Lt.
- Sheet 23 – Additional New Quantity. Remove & Salvage Pipe. Salvage to County, 25 LF of 30" CMP.
- Insert the Unit price definitions into the City's Special Provision after Liquidated Damages.

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**Addendum #1**

- Delete Sections 00805 & 01015 in their entirety.
- Section 01340 – Insert Shop Drawing Submittal form
- Section 15060, 1.3.B.3 - Foundry certification.
- Section 01060, 1.7.B.1 – Delete 1. Replace with "Contractor shall purchase valves 16" and smaller from City
- Section 15060, 2.1.B.2 – Delete a. All other pipe shall be ductile iron pipe unless otherwise indicated, 16" pipe may be DIP or PCCP.
- Section 15062, 2.4.B.1 – DIP exterior coating should be 16 mils rather than 16 mm

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**Questions & Answer Session**

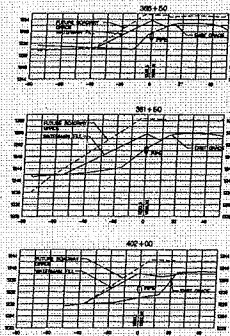
- Self-guided tours of alignment.
- Contact us with additional questions.

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# Questions & Answer Session



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TYPICAL FILL SECTIONS

NOTE: ELEVATION DATA BASED ON THE PROPOSED GRADE. THE PROPOSED GRADE IS THE PROPOSED GRADE. THE PROPOSED GRADE IS THE PROPOSED GRADE.

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**City of Lincoln, Nebraska, 2005  
Water Distribution Mains  
Project Nos. 803202, 803203, 803204  
Specification No. 05-258**

**ATTENDEES:**

<u>NAME</u>	<u>REPRESENTING</u>	<u>ADDRESS</u>	<u>PHONE</u>	<u>FAX #</u>
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Terry McArthur	HDR Engineering, Inc.	301 South 13 <sup>th</sup> , Suite 701 Lincoln, NE 68508	(402) 742-2905	(402) 742-2930
Kent Evans	City of Lincoln Engineering Services	531 Westgate Blvd., Suite 100 Lincoln, NE 68528	(402) 441-7583	(402) 441-6576
Steve Owen	City of Lincoln Lincoln Water System	2021 N. 27 <sup>th</sup> St. Lincoln, NE 68503	(402) 441-5925	(402) 441-8493
Nick McElvain	City of Lincoln Lincoln Water System	2021 N. 27 <sup>th</sup> St. Lincoln, NE 68503	(402) 441-5931	(402) 441-8493

City of Lincoln, Nebraska, 2005  
 Water Distribution Mains  
 Project Nos. 803202, 803203, 803204  
 Specification No. 05-258

ATTENDEES:

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Justin Erikser	GPP	Omaha, NE	402-578-4178	402-315-9728
Russ Nelson	LINDSEY const.	FAIRFACUE AR	402-479-2001	402-499-2019
ERIC BOOKSTROM	HRIZ	LINCOLN	464-4342	464-4046
JOHN PENNEKAMP	ST LOUIS	Water Park, MO	320-267-1818	320-253-3533
J. W. YOUNGBLOOD	Garnsey Const	Kansas City, MO	816-746-7223	816-746-7288
Bruce Sweney	City - Engr Serv.	531 Westgate	402-441-8403	402-441-6576
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DAVID DUFFY	Dobson Bros.	W neola	402 474-5115	
BRIAN EGR	GEN. EXC	Lincoln	(402) 467-1627	(402) 467-2084
Steve Owen	LWS	Lincoln	402-441-5925	
DEN GIBBS	PRICE Bros	Lincoln		
DOYLE PETERSEN	HWS	Adair, KS	913-764-4900	913-764-5370
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		Lincoln, NE	402-479-2200	402-479-2276

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Mary Lowe	Eng		
KEVIN STEELE	JUDS BROTHERS		
Cliff Thomas	2021 N 27th	402 441-5931	402.441.8493
Nickell Backmeier	531 W 1st St Apt P.O. Box 5344 LINCOLN	441-75240 467-4666x103	441-6576 467-4782
Doug Pullard Co Eng			
Joe McLaughlin			
Vince Myer Purchasing			
Steve Wenthmann			
Warren Wondolcheck			